

Raising the Profile of the Community-based Seniors' Services Sector in B.C.:

A Review of the Literature



Full Report



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The Raising the Profile Project

The [Raising the Profile Project](#) (RPP) is a new provincial network whose goal is to identify and build on the capacity of community-based seniors' services to meet the growing needs of an aging population. The network consists of executive directors and managers from municipal and non-profit organizations around B.C., seniors who are volunteer leaders in the community-based seniors' services sector, as well as provincial organizations that support the work of the sector. The overall goals of the project are to:

1. Raise awareness in the broader community and government of the vital role played by community-based seniors' services to support seniors to remain socially, physically and mentally active, and maintain their health and independence for as long as possible.

2. Document the uneven provision of, and support for, these services in different communities and regions of the province, and the limited access to services for many low income, isolated, immigrant, LGBTQ, rural and Indigenous seniors.

3. Outline a business case for greater investment in this sector based on the evidence showing that healthcare utilization and healthcare costs can be significantly reduced when seniors are socially engaged, physically active and have access to nutritional education and supports.

4. Identify specific capacity building strategies/social innovations that would improve collaboration and coordination within the sector and/or result in stronger relationships with, and commitment from, external partners and funders.

An integral part of the work of the Raising the Profile Project is understanding what the current research is saying about the benefits of the community-based seniors' services sector. Currently in government, and in the public more broadly, there is a lack of understanding and recognition of the important role played by the community-based seniors' services sector. This report documents what was discovered about the sector in a review of the academic and grey (non-academic) literature. This research was conducted by Laura Kadowaki, a PhD student in the Department of Gerontology at Simon Fraser University and a researcher with the RPP, with the assistance of Marcy Cohen the project co-lead for the RPP. Editing by Emily Aspinwall and Graphic Design by Krisztina Kun at KunStudios.

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Executive Summary

It is estimated that by the year 2038, approximately one quarter of people living in Canada will be seniors and the majority of these seniors want to “age in place”, in their own homes and communities. This aging population will have huge implications on many aspects of Canadian society. The community-based seniors’ services sector (see adjacent for detailed definition of the sector) plays a critical role in supporting seniors by providing a broad range of low-barrier and low-cost services that support seniors to remain physically active, be socially engaged, build resilience and be as healthy and independent as possible.

As part of their work, the community-based seniors’ services sector provides a broad range of health promotion and prevention programs and services. *Raising the Profile of the Community-Based Seniors’ Services Sector in B.C.: A Review of the Literature* provides evidence showing that a greater emphasis on this type of health promotion and prevention programming results in significant improvements in seniors’ health, and reductions in healthcare system use and costs. This research shows how investment in the community-based seniors’ sector makes sense, both economically and in terms of supporting people to live positive and healthy lives.

In exploring this research, this report focuses on:

- The policy context for understanding community-based seniors’ services in B.C., including its relationships to the healthcare system and different levels of government
- Frameworks for understanding how community-based seniors’ services benefit seniors
- A summary of the literature on the role of community-based seniors’ services
- The link between health outcomes and nutrition, physical activity, and social support
- Considerations for designing effective interventions to promote seniors’ health and resilience

What are Community-Based Seniors’ Services (within a B.C. context)?

Community-based seniors’ services provide seniors with access to a range of low-barrier programs in six core areas:

1. Nutritional support
2. Affordable Housing
3. Health and wellness
4. Physical activity
5. Cultural, educational and recreational programs
6. Information, referral and advocacy
7. Transportation

These programs and services are offered through a range of municipal and non-profit agencies including:

- Senior centres
- Community centres
- Neighbourhood houses
- Community coalitions
- Ethno-cultural organizations
- Multi-service non-profit societies

Community-based seniors’ services receive funding from a variety of sources including:

- Municipal governments
- Community foundations
- The United Way
- Local businesses/donors
- The federal New Horizons Program
- Community Gaming Grants
- Regional health authorities
- The Ministry of Health

Within B.C., there has been limited research conducted on the community-based seniors' services sector.

Despite some growth in the sector, services (non-profit as well as municipal) are not keeping up with demand.

1. Understanding the Community-Based Seniors' Services Sector in B.C. and its Relationship to Government and the Healthcare System

The level of attention to, and provision of, seniors' services by local governments varies greatly across B.C. Some local governments are very proactive, playing a key coordinating role within their communities (e.g., by introducing age-friendly community initiatives), while others are providing little leadership.

The funding, scope, and distribution of community-based seniors' services also varies greatly across the province. For example, a 2013 United Way report found that 36 percent of services in the Lower Mainland are located in Vancouver compared to only 11 percent in Surrey, whereas the seniors' population of these two cities was 90,593 for Vancouver and 69,297 for Surrey.

Within B.C., there has been limited research conducted on the community-based seniors' services sector. Despite some growth in the sector, services (non-profit as well as municipal) are not keeping up with demand. Municipal recreation and community facilities serving seniors in B.C. are getting older and the ratio of funding per person is decreasing. Non-profit organizations continue to receive less and less government funding and face challenges with obtaining adequate space, effectively serving diverse and changing participants, and providing viable options for transportation (to programs).

At the provincial level, seniors are one of the stated key priorities of the B.C. Ministry of Health. Since 2015, the Ministry has been discussing the need to redesign primary and home and community care. The goal is to better support older adults with moderate to complex chronic conditions through team-based models with linkages to community-based prevention and health



The funding, scope, and distribution of community-based seniors' services varies greatly across the province.

promotion programming. Unfortunately, so far, there has been limited concrete progress made toward implementing these models. These reforms are of key importance to the community-based services' sector, and will enhance the linkages between the healthcare system and the sector.

The establishment of Better at Home programs by the B.C. Ministry of Health (through the United Way of the Lower Mainland) represents an investment by the provincial government in the community-based seniors' services sector and is helping to fill some of the gaps in community services. The Better at Home program started in 2012 with the goal of supporting local communities across B.C. to provide non-medical home support services. There are now a total of 67 communities providing Better at Home services, with pressures to increase the level of funding in many communities due to the high demand for services.



Research shows that lack of social relationships is equivalent to smoking as a risk factor for mortality.

2. Frameworks for Understanding the Role of the Community-based Seniors' Services Sector: Comprehensive Models of Health, Social Determinants of Health and the Importance of Fostering Resilience

Unlike the dominant disease-centred medical model, comprehensive models of health incorporate broader social determinants of health (e.g., social support, income security) and factors that foster resilience in older adults. Consequently, research has found the medical model is much less effective than comprehensive models of health in predicting which groups of older adults are at greatest health risk. For example, despite having a significant impact on seniors' health, factors which put seniors at risk of social isolation, such as poor mental health (loneliness), sensory function (hearing) and mobility, are rarely considered by the medical model. The recent increased focus on comprehensive models of health is resulting in more visibility and awareness of the health promotion and prevention programming that is offered by the community-based seniors' services sector. The contributions this programming makes to the health and well-being of older adults can be seen as fundamental to an effective healthcare system.

Social determinants of health, considered central within

the framework of comprehensive models of health, emphasize the importance of identifying and addressing the root causes of illness and disease. Social support and income are pivotal social determinants of health that are very relevant to the work and programming of community-based seniors' services.

Research shows that lack of social relationships is equivalent to smoking as a risk factor for mortality. When seniors are socially isolated they are at an increased risk of Alzheimer's disease, depression, physical inactivity, falling and poor nutrition. Feeling isolated from others can have significant health impacts including sleep disruption, high blood pressure, decreased immunity and increases in the stress hormone cortisol. Seniors who are caregivers, immigrants, LGBTQ, Indigenous and/or are living alone are at greater risk for social isolation. Providing social support and outreach to isolated seniors are significant priorities of community-based seniors' services, and can help to foster resilience and well-being for seniors.

The relationship between income and health is well-established - the less income you have, the greater chance you will have poorer health. Income also has a strong impact on two other important social determinants of health - housing and food security. Many community-based seniors' services specifically target low-income seniors and provide food and other programs to support these seniors.

Fostering resilience is increasingly being recognized as a way to support older adults to thrive in the aftermath of significant personal loss, ill health and/or chronic health



Social support and income are pivotal social determinants of health that are very relevant to the work and programming of community-based seniors' services.

challenges. There is new evidence that resilience can mitigate some of the debilitating effects of chronic illness. This can include delaying (or limiting) functional decline and subsequent disability. Resilience is a strength-based concept – a person is said to be resilient when they have the ability to bounce back in the face of adversity and continue to pursue the positive. But resilience is more than an individual psychological trait, and research is focusing more attention on the social and societal factors that support resilience. Research shows that fostering resilience in seniors can be supported through a range of strategies, including:

- fostering social connectedness and civic engagement;
- building skills that increase positive emotions and more effective coping;
- supporting lifestyle changes that increase access to physical activities, better nutrition, etc.;
- providing technology-based interventions for home bound seniors;
- enhancing primary and secondary prevention of chronic conditions; and
- increasing problem-solving capacity.

Many of these strategies are addressed through the kinds of programming offered by community-based seniors' services. Researchers note that social support is a particularly important resilience factor, and therefore is an essential target for resilience-enhancing interventions. Self-management and restorative care are two examples of comprehensive strength-based interventions that

foster resilience and social support. Both have been shown to produce health benefits as well as cost savings.

Comprehensive models of health – ones that include social support, income security and resilience – are helping to shift conversations on seniors' health away from an exclusive focus on disease-specific interventions. These models point to the importance of integrating and connecting the health promotion and prevention programming offered through community-based seniors' services with traditional health services. There are existing comprehensive healthcare models we can look to for inspiration and evidence. One example, *Gesundes Kinzigtal*, a small regional health system in Germany, provides an effective integration model whose benefits (including cost savings) are well-documented in the research.

Comprehensive models of health – ones that include social support, income security and resilience – are helping to shift conversations on seniors' health away from an exclusive focus on disease-specific interventions.



Socialization is identified as the most important reason for participating in programming. Seniors report improvements in life satisfaction and mental well-being because of their involvement.

3. The Sector's Role and Impact

Most of the academic literature on the role and impact of community-based seniors' services is U.S.-based and is focused on senior centres. The few Canadian reports on senior centres that do exist have similar findings to their U.S. counterparts.

One of the leading U.S. researchers, Manoj Pardasani, stresses the importance of the growing role that senior centres are playing in health promotion and prevention. This includes the social opportunities and services that support independence and well-being, as well as the recent expanded focus on preventing/delaying institutionalization. Recent similar shifts in programming priorities are documented in a report on senior centres in Metro Vancouver (*Our Future: Seniors, Socialization and Health*).

Some of the other key findings from the academic and grey (non-academic) literature on the role, impact and characteristics of senior centres include:

- Senior centres offer a wealth of programs in the areas of: food and nutrition; health and wellness; fitness and sport; recreation; creative arts; education; and information and referral. Many of these programs are supported by senior volunteers. Socialization is identified as the most important reason for participating in programming.
- Senior centres mainly serve an older population of seniors (average age is around 75), the majority of

who are women. These seniors report improvements in life satisfaction and mental well-being because of their involvement. Women living alone report the greatest benefits. Seniors of colour report higher social, information and health benefits from using senior centres than white seniors.

- Most users of senior centres have low to moderate incomes. Lower income seniors report more health and social benefits from participation than higher income seniors.
- Meal programs are the most frequently used services in senior centres (three quarters of centres in the US offer meal programs on site). Most users of meal programs are low income, and a disproportionate number are female, from "racial and ethnic minority communities", and/or are living alone.
- A significant barrier to participation in senior centre programming is the lack of available transportation. This is particularly true for seniors living in rural and suburban locations.
- A lack of racial and ethnic diversity is a systemic issue at many senior centres. The lack of diversity in programming and staffing creates a barrier to participation for immigrant seniors and/or seniors of colour.
- The sector is significantly under-resourced and facing ongoing space and budget constraints.



One third of seniors living in the community were identified as being at risk of malnourishment.

4. How Nutrition, Physical Activity, and Social Support Affect Health Outcomes

Nutrition, physical activity, and social support are three key areas in which community-based seniors' services may substantially impact the health and well-being of seniors and reduce the use and cost of healthcare services.

NUTRITION

Research has found that a healthy diet is linked to positive health outcomes for seniors, while conversely, multiple studies have linked malnutrition to negative health outcomes and increased healthcare costs. Despite this well-documented research, approximately one third of seniors living in the community were identified as being at risk of malnourishment (according to 2008/9 Canadian research). This nutritional risk is higher for seniors who are female, have a low income, live alone, have infrequent social participation, experience low social support, struggle with depression, have a disability, take prescription medications, and/or have poor oral health. In one recent study, the Canadian Malnutrition Task Force found that approximately 45% of patients who came into hospital were moderately or severely malnourished. These patients had longer hospital stays, which cost the healthcare system an additional \$1,500-\$2,000 per individual (on average) or \$1.56 to \$2.1 billion per year (approximately).

Research shows that the nutritional status of older adults can be improved with nutritional interventions, many of which are provided by community-based seniors' services. Recent research points to a shift away from the traditional Meals on Wheels model, where food is brought into an individual's home, to the provision of meals in social settings where people are able to access both the nutritional benefits and the opportunity to socialize. A Canadian study concluded that the food services provided by community service providers should be considered a crucial component of the healthcare continuum for older adults.

PHYSICAL ACTIVITY

While the health benefits of physical activity are widely accepted within society, the 2012/13 Canadian Health Measures Survey found that only 12 percent of Canadians aged 60-79 were meeting recommended physical activity guidelines. Systematic reviews (which identify, analyze and summarize the results of multiple studies) have shown that physical activity interventions can improve aspects of physical function in seniors. Physical activity has been linked with better management and prevention of some of the most common chronic health conditions including cardiovascular disease, hypertension, osteoporosis, type 2 diabetes, colon and breast cancer, arthritis, stroke and cognitive decline.

Multiple studies have connected physical activity with decreased healthcare utilization and costs. For example, exercise programs have been found to reduce the risk of falls, which is the number one cause of injury-related hospitalizations for seniors in Canada, costing the



Multiple studies have connected physical activity with decreased healthcare utilization and costs.

5. Designing Interventions to Promote Health and Resilience in Seniors

healthcare system an estimated additional \$2 billion each year.

SOCIAL SUPPORT

Research suggests that social support is equally, if not more, important for the health of seniors as nutrition and physical activity are. Social support impacts health through behavioural and psychological processes, which in turn influence biological pathways (e.g., cardiovascular and immune pathways). Social support slows cognitive decline, delays the progression of physical disability, positively impacts mental well-being, and increases longevity. Seniors who are socially isolated or lack social support have been found to be at increased risk of hospitalization, mortality, and institutionalization, with higher rates of physician utilization and higher hospital costs.

Research suggests that strong social support infrastructure can provide social protection and support for vulnerable seniors. The social integration and participation of seniors in society is considered an indicator of a productive and healthy society.

Research documents various successful approaches to use when designing community-based interventions that promote health and resilience for seniors. These successful approaches involve:

- using a person-centred approach;
- fostering social support and social connection in all programming;
- increasing the focus on health promotion programming;
- providing transportation options;
- addressing the challenges of implementing effective interventions (e.g., sustainability of interventions, service provision in rural communities, meeting the needs of underrepresented cultural and linguistic groups).

A lack of ongoing sustainable funding is a significant concern for community-based seniors' services. While partnerships are one way to overcome some of the challenges associated with lack of funding and resources, more support is still needed from government and other funders.



To support B.C.'s seniors to remain as healthy and independent as possible, a funding and policy framework is needed that will build the capacity of the community-based seniors' services sector.

Conclusion

The community-based seniors' services sector plays a key role in delivering cost-effective health promotion and prevention programming that helps to build resilience and foster the health and well-being of seniors. This is especially true amongst low-income and other vulnerable groups of seniors. While policy statements from the provincial and municipal levels of government acknowledge the contributions of the sector on paper, access to community-based seniors' services across the province is uneven and has not significantly increased (and in some key areas has actually declined), despite the aging of the population.

To support B.C.'s seniors to remain as healthy and independent as possible, a funding and policy framework is needed that will build the capacity of the community-based seniors' services sector. At present, there are significant gaps in our knowledge of the community-based seniors' services sector in B.C. and the role it plays in the health of seniors. In government, and in the public more broadly, there is a general lack of awareness of the services offered by the sector and the benefits that result from these services.

The Raising the Profile Project is in the midst of expanding our understanding of the work and impact of the community-based seniors' services sector in B.C. The work of the Raising the Profile Project involves:

- profiling the work of community-based seniors' services;
- documenting promising practices being undertaken by the sector;
- identifying challenges and future directions;
- building the case for increased collaboration and coordination both within the sector, and with external partners and funders.

Raising the visibility of the sector and providing more support for the programming that the sector provides, are both critical to ensuring that B.C. has the capacity to address the growing challenges of an aging population, now and into the future.



Literature Review



Community-based seniors' services play a critical role in supporting seniors to age in place by providing a broad range of services that support seniors to remain physically active, socially engaged, and as healthy and independent as possible.

Introduction

Seniors¹ made up 15.3% of the Canadian population in 2013, and it has been estimated that by the year 2038 approximately 22 to 23% of people living in Canada will be seniors. The population in British Columbia (B.C.) is older than the national average – in 2013, 16.4% of the population were seniors and it is estimated that in 2038, 24 to 27% of B.C.'s population will be seniors (Statistics Canada, 2015a). Most seniors want to live in their own home and community and “age in place” (Canada Mortgage and Housing Corporation [CMHC], 2008). Both the Office of the Seniors Advocate and B.C. Ministry of Health (B.C. MoH) have recognized that allowing seniors to age in place is the preferred option for most seniors and an important policy goal for government (Office of the Seniors Advocate, 2014; 2015; B.C. MoH, 2015a). Community-based seniors' services play a critical role in supporting seniors to age in place by providing a broad range of services that support seniors to remain physically active, socially engaged, and as healthy and independent as possible. This report uses the description offered in box 1 to define the community-based seniors' services sector.

¹ Defined by Statistics Canada as people aged 65 and up. It should be acknowledged though, that some community-based seniors' organizations begin serving people as young as ages 50 or 55, and the definition of senior is somewhat subjective. The term senior is used interchangeably with the term older adult.

Box 1. What are Community-Based Seniors' Services (within a B.C. context)?

Community-based seniors' services provide seniors with access to a range of low-barrier programs in six core areas:

1. Nutritional support
2. Affordable Housing
3. Health and wellness
4. Physical activity
5. Cultural, educational and recreational programs
6. Information, referral and advocacy
7. Transportation

These programs and services are offered through a range of municipal and non-profit agencies including:

- Senior centres
- Community centres
- Neighbourhood houses
- Community coalitions
- Ethno-cultural organizations
- Multi-service non-profit societies

Community-based seniors' services receive funding from a variety of sources including:

- Municipal governments
- Community foundations
- The United Way
- Local businesses/donors
- The federal New Horizons Program
- Community Gaming Grants
- Regional health authorities
- The Ministry of Health

Municipal governments are widely acknowledged as central actors in anticipating the challenges and opportunities associated with an aging population.

The Scope and Policy Context of the Community-Based Seniors' Services Sector in B.C.

1.1 MUNICIPAL, PROVINCIAL, AND FEDERAL POLICY CONTEXTS

The Federation of Canadian Municipalities (2013) has recognized population aging as an important factor that will shape and change our communities. They state:

From international, national and local perspectives, municipal governments are widely acknowledged as central actors in anticipating the challenges and opportunities associated with an aging population. Through housing, transportation, recreational services, social engagement, physical infrastructure, and community health, municipalities are the frontline providers of many services required to support older Canadians. (p.4)

While funding and support for community-based seniors' services varies across the province, many of these services are either fully or partially funded (and affiliated) with a specific municipality (and in rural areas with a regional district). Clearly, local governments have a significant role to play in the development of services and programs in this sector. And while some local governments have embraced this role, through such measures as age-friendly community initiatives, others have paid limited attention to seniors' issues.

The "age-friendly city" concept is a World Health Organization (WHO) health promotion initiative designed to encourage communities to make adaptations to their structures and services in order to become more accessible and inclusive for seniors (WHO, 2007). The WHO has produced the *Global Age-Friendly Cities Guide* which identifies eight core areas of adaptation for age-friendly communities: outdoor spaces and buildings; transportation; housing; social participation; respect and social inclusion; civic participation and employment; communication and information; and community support and health services (WHO, 2007). Menec, Means,

Keating, Parkhurst, and Eales (2011) suggest that the fundamental benefit of age-friendly communities is building social connectivity within communities. The concept of age-friendly cities has been embraced by many Canadian municipalities, and in B.C. a total of 39 communities have been specifically recognized as age-friendly (B.C. Government, 2016). Appendix 1 provides a more detailed description of the age-friendly community initiatives and an example of an age-friendly community in Saanich, B.C.

At the provincial level, the B.C. MoH has also recognized the implications of an aging population. Several recent policy reports from the MoH focus on seniors as one of their strategic priorities. A 2015 paper released by the MoH states:

Various reviews have identified an emerging consensus that quality of health care can be improved by moving from a system focused mainly on acute hospital care to a proactive system of primary and community care built to address changing patient needs earlier and more effectively, especially the growing number of those with chronic conditions and the needs of an aging population. (B.C. MoH, 2015a, p.22)

The MoH priority intervention areas include with individuals (living both in the community and in residential care) who have moderate to complex chronic conditions and/or are frail, as together these individuals make up less than 16% of the population but account for 56% of healthcare spending (B.C. MoH, 2015a). Since 2015, the Ministry has been discussing the need to redesign primary as well as home and community care to better support this population using team-based models with linkages to community-based prevention and health promotion programming (B.C. MoH, 2016a). Unfortunately, so far, there has been limited concrete progress made toward implementing these models. These reforms are of key importance to the community-based services' sector, and will enhance the linkages between the healthcare system and the sector. One of the goals of this literature review is to summarize the research on the role of community-based seniors' services in delivering health promotion and prevention programming

Better at Home program coordinators identified limited funding, high demand for services, and the need for services outside of the program's scope as challenges to delivering adequate and appropriate services to seniors in their regions.



for seniors, including examples where this programming has been integrated with and/or linked to health system redesign and delivery.

The establishment of the province-wide Better at Home programs by the B.C. MoH represents an investment by the provincial government in the community-based seniors' services sector and is helping to fill some of the gaps in community services. Better at Home programs provide non-medical home support services in seven areas (light housekeeping, transportation, friendly visiting, grocery shopping, light yard work, minor home repairs, and snow shoveling) in order to assist seniors to remain living independently in the community. Since 2012, a total of 67 Better at Home programs have been established across the province. Programs are overseen by the United Way, but are run and delivered by local not-for-profit organizations. A mix of staff, contractors, and volunteers provide services (Chomik Consulting & Research Ltd., 2014). There has been considerable pressure on the program to increase the level of funding in many communities due to the high demand for services. In the evaluation of the program conducted by Chomik Consulting & Research Ltd. (2014) Better at Home program coordinators identified limited funding, high demand for services, and the need for services outside of the program's scope as challenges to delivering adequate and appropriate services to seniors in their regions.

The B.C. provincial government also provides some direct funding to non-profit agencies, including community-based seniors' services, through Community Gaming Grants. These grants are awarded for specific programs and cannot be used for core funding (Ministry of

Community, Sport and Cultural Development, 2017). In 2014/15, the grants provided \$133 million in funding to 4,968 organizations (Gaming Policy and Enforcement Branch, 2015). In a 2011 review of the grant program, non-profit organizations highlighted three key areas of concern: governance (e.g., onerous application process, reporting requirements, how to measure program success, etc.); funding (e.g., need for increased funding, desire for multi-year funding, etc.); and eligibility (e.g., sectors eligible to apply, etc.) (Triplett, 2011).

At the federal level, there is little direct involvement in the community-based seniors' services sector. One way that the federal government does make some contributions to this sector is through their New Horizons for Seniors Program, which annually provides small grants to support senior-run or senior-focused community projects (as well as funding larger "Pan-Canadian" projects every three years). Each fiscal year the program funds approximately 1,800 projects (58% of applications on average) and the average funding provided is \$19,000 per community project (Employment and Social Development Canada, 2015). New Horizons has another funding stream for much larger Pan-Canadian Projects where funding is provided for up to three years to test and share best practices and scale up successful interventions. In the 2015-16 round of funding for the Pan-Canadian Projects, the focus was on reducing isolation for seniors. In B.C., as part of the 2015-16 round of funding, two successful Pan-Canadian Projects were funded, one in Metro Vancouver and another in Nanaimo (Employment and Social Development Canada, 2016).

In the 1990s in B.C., approximately \$484 per person was invested in recreation facilities, while by 2009 it had fallen to \$186 per person (BCRPA, 2009).

1.2 COMMUNITY-BASED SENIORS' SERVICES SECTOR IN B.C.

There has been very little research conducted on the community-based seniors' services sector within B.C. and as result the sector is not well understood. What is known from the grey (non-academic) literature about the sector is summarized below.

Between 2002 and 2013, in the Lower Mainland, Sea-to-Sky corridor and Sunshine Coast region, there was an estimated 35% increase in the number of seniors' service organizations (housing organizations, home support and personal service organizations, community organizations, and other), according to a report by the United Way of the Lower Mainland (Metcalf, 2013). This increase is proportional to the seniors' population growth that occurred during this time in those regions (approximately 34%). However, this increase has not occurred evenly across services. Assisted living and private home support services had the largest increases, while there were only modest increases for community-based seniors' services (Metcalf, 2013). Because the majority of assisted living and private home support services are provided by for-profit organizations, and seniors (and/or their families) pay privately to access them (i.e., they are not publicly funded or subsidized), they are inaccessible to most low-income seniors. On the other hand, community-based seniors' services that are more commonly utilized by low-income seniors, such as meals and multi-activity/recreational services, had the smallest increases. These services are generally offered through the municipality and not-for-profit community-based organizations.

There are also significant regional imbalances in the distribution of services. This means that not all seniors have equal access to community-based seniors' services, and the current distribution of services may not be suitable to meet the needs of our aging population. For example, the report found that approximately 36% of community-based seniors' services were located in Vancouver compared to 11% in Surrey (Metcalf, 2013), whereas the seniors' population of these two cities was 90,593 for Vancouver and 69,297 for Surrey (B.C. Stats, 2016).

Municipal recreation and community facilities serving seniors in B.C. are getting older, funding is decreasing and services are not able to keep up with demand.

In 2006, the B.C. Recreation and Parks Association (BCRPA) conducted an inventory of municipally-operated recreation facilities and reported that there were 167 senior centres across the province at the time and 73 were municipal and 94 were not-for-profit. They found that over half of 73 municipal senior centres were 25 years or older and approximately one third reported they were unable to meet the demand for services in their area (BCRPA, 2006). In a later report building on the findings from the inventory of municipal recreation facilities, the BCRPA (2009) reported that despite population growth, overall funding for recreation facilities has declined and there is a significant backlog in required maintenance. In the 1990s in B.C., approximately \$484 per person was invested in recreation facilities, while by 2009 it had fallen to \$186 per person (BCRPA, 2009). The BCRPA makes the case that recreation is important as it promotes physical and mental well-being, provides opportunities for social engagement, fosters community spirit, protects the environment, and supports the economy. The report concluded that there is a need for significant investment in the renewal of recreation facilities (BCRPA, 2009).

Since many community-based seniors' services are delivered by non-profit organizations, it is also important to understand trends and the status of the non-profit sector. In 2003, there were 20,270 non-profit and voluntary organizations in B.C.² and approximately 15% of these organizations served seniors (Murray, 2006). The most extensive data on non-profits comes from the 2003 *National Survey of Nonprofit and Voluntary Organizations*, which found that for non-profit organizations that rely on external grants, 65% reported reductions in government funding, 61% reported an overreliance on project funding, and 61% reported that funders were unwilling to fund core operations (Hall et al., 2005). This survey documented many key challenges facing the sector including planning for the future, recruiting and retaining needed volunteers, obtaining board members, and obtaining funding from other organizations/donors.

² Non-profits are organizations that are nongovernmental, not profit distributing, self-governing, voluntary (supported by voluntary time/money), and formally incorporated/registered (Hall et al., 2005).



In 2015, the New Directions Project³ conducted a survey of non-profit and voluntary organizations in B.C. (n = 1,865) (New Directions, 2015). They found that non-profits receive funding from a variety of sources that include government funding (28%), fundraising and donations (23%), membership fees (13%), sales of goods/services (13%), and foundation grants (11%). Strengths of the non-profit and voluntary sector were noted as: the connection to, and support of, local community; caring for vulnerable people; and connecting people with services. Challenges of the sector included: building support for, and demonstrating the value of, the non-profit sector; competition for limited resources; and relationships with government. The top strategic priority identified for the sector moving forward was building awareness of the sector within the government, public and funders (New Directions, 2015).

In more recent research, Levi and Kadowaki (2016) collected data and conducted interviews with eight community-based seniors' services that provide programs to seniors in Metro Vancouver (six senior centres, one community centre, and one neighbourhood house). These centres offer a wide variety of programs to enhance the health and well-being of older adults (e.g., lunch

Centres that are municipally-funded facilities have more stable sources of funding and more resources than non-profit centres.

programs, art therapy, fitness programs, information and referral, etc.). The different centres vary significantly in terms of their size, staffing, scope of programs, and budgets. The study found that centres that are municipally-funded facilities have more stable sources of funding and more resources than non-profit centres, which may receive some funding from their municipality, but are more dependent on short-term project grants (i.e. grants that do not cover core facility and administrative costs). The strengths of all these centres were their strategic partnerships and volunteers, while challenges include obtaining adequate funding and space, effectively serving diverse and changing participants, and providing viable options for transportation (to programs) (Levi & Kadowaki, 2016).

³ The New Directions Project was a partnership between the Social Planning and Research Council of B.C., Vancity Community Foundation, the Voluntary Organizations Consortium of B.C. and Volunteer B.C.

2. Frameworks for Understanding the Role and Impact of the Community-based Seniors' Services Sector

2.1 HEALTH: MORE THAN THE ABSENCE OF DISEASE AND INJURY

The biomedical model, the traditionally dominant model of health in Western societies, sees health as the absence of disease and illness. There has been increasing dissatisfaction in mainstream healthcare circles with this biomedical model, and in the mid-twentieth century comprehensive models of health begun to be explored in Western societies (Blaxter, 2004). In 1948, the World Health Organization (WHO) embraced a more comprehensive approach by defining health as encompassing "physical, mental and social well-being and not merely the absence of disease or infirmity." (WHO, 1948). This definition remains one of the most commonly used definitions of health today and provides a framework on which to base comprehensive models of health.

In a study comparing the health of community-dwelling⁴ older adults in the U.S., McClintock, Dale, Laumann and Waite (2016) found that an alternative comprehensive model (CM), which incorporated a wider array of health factors, was more effective at predicting five-year mortality and incapacitation than the medical model (MM). The CM revealed important health factors which were hidden in the MM. (See Box 2 for information on study results). McClintock et al. (2016) suggest that:

From a health system perspective, a shift of attention is needed from disease-focused management, such as medications for hypertension or high cholesterol, to overall health, especially for mental health concerns, sensory function, and mobility. (p.7)

⁴ Community-dwelling seniors are defined as those living in the community, and not a nursing home or other institution.

Box 2. Summary of Results from McClintock et al. (2016)

- The medical model of health (MM) places approximately two thirds of US older adults into "robust health" classes, while the comprehensive model of health (CM) reveals that about one half of these adults belong to less healthy classes independently associated with higher mortality.
- The CM also showed that some individuals with chronic conditions, typically considered to be unhealthy, can have many strengths that lead to their reclassification as quite healthy with low risk of death or incapacity.
- The CM provides a more nuanced analysis identifying mental health (loneliness), sensory function (hearing), mobility and bone fractures as key factors in determining the risks of death and incapacity.

Another recent study by Wang et al. (2014) found similar results. Researchers evaluated the impacts of health deficits (e.g., diseases, activities of daily living, cognitive function, etc.) and protective factors (e.g., marital status, socioeconomic status, social and recreational activities, health behaviours, etc.) on health status and mortality in older Chinese adults. The study authors quantified health deficits by constructing a frailty index and found that in the face of health deficits/frailty, possessing a greater number of protective factors was associated with lower risk of declines in health and mortality over a 15-year period. Each protective factor appeared to mitigate the risk of health decline and death from between 13-25%. While some amount of health decline over time is inevitable, the authors concluded:

...the well-being and longevity of older adults can be enhanced by adapting a better lifestyle, engaging in appropriate physical exercise, cognitive activities, and social and leisure engagement. (p.827)

The findings from these studies suggest that interventions beyond solely medical ones are needed to maintain and improve the health of seniors. Indeed, a shift in this direction began in Canada in the 1970s with the release of the *Lalonde Report*. This groundbreaking report proposed that people’s health could be improved more effectively by changes in lifestyle and in the physical and social environment, than by further investment in the development of medical interventions (Lalonde, 1974). Subsequently, in 1986, the *Ottawa Charter for Health Promotion* proposed health promotion as essential in achieving the WHO definition of health:

Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being. (WHO, 1986, p.2)

These developments supported the advancement of a comprehensive model of health and established prevention and health promotion as fundamental activities for a healthy population. With a focus on this comprehensive model of health, the importance of the health promotion and prevention programming offered by the community-based seniors’ services sector increases. The contributions this programming makes to the health and well-being of older adults can be seen as central to an efficient and effective healthcare system. Section four of this report expands on this, by documenting the research linking nutrition, physical activity, and social support to healthcare utilization and costs.

2.2 SOCIAL DETERMINANTS OF HEALTH

Understanding the social determinants of health and their connections to a healthy population is crucial to developing a comprehensive and effective health framework. The social determinants of health can be defined as:

The conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems. (WHO, 2016)

The social determinants of health are “the economic and social conditions that shape the health of individuals, communities, and jurisdictions as a whole”.

In Canada, the social determinants of health are often described as “the economic and social conditions that shape the health of individuals, communities, and jurisdictions as a whole” (Raphael, 2009, p.2). Canada is considered to be a leader in the development of the social determinants of health. Despite this reputation, there is limited understanding about the importance of the social determinants of health, and little action by policymakers in Canada to put these concepts into practice (Raphael, 2009).

There are different ways of defining the specific social determinants of health. The Public Health Agency of Canada (PHAC) has identified 12 key determinants of health, 10 of which are social determinants⁵ (see Box 3) (PHAC, 2013). An alternative list of 12 social determinants of health, based on findings from the 2002 national conference *Social Determinants of Health Across the Lifespan*, includes Indigenous status, early life, education, employment and working conditions, food security, gender, healthcare services, housing, income and its distribution, social safety net, social exclusion, and unemployment and employment security (Raphael, 2009).

Box 3. Social Determinants of Health (PHAC, 2013)

- Income and social status
- Social support networks
- Education and literacy
- Employment/working conditions
- Social environments
- Physical environments
- Personal health practices and coping skills
- Healthy child development
- Gender
- Culture

⁵ Biology/genetic endowment and health services are the only determinants they identify which they do not consider to be social determinant of health.

Looking at health through the lens of the social determinants of health emphasizes the importance of identifying and addressing the root causes of illness and disease. Consider, for example, the case of a senior who is in the hospital because they tripped and fell, breaking their hip. To most people the cause of the injury would be obvious – a fall. However, if we examine the situation through the lens of the social determinants of health, other underlying causes may be identified. Perhaps the senior was low income, isolated, not eating properly and/or lived in sub-standard housing and their fall was due to one of more of these factors. Or perhaps the senior lacked social support and access to health services, and was attempting to do chores around their home that were beyond their capabilities. The social determinants of health encourage us to look beyond the simple explanation and ask “Why did this occur?”.

2.2.1 SOCIAL SUPPORT

While all of the social determinants of health have the potential to impact the health of seniors, the determinant most relevant to the discussion of the community-based seniors’ services sector is social support (and social environment). PHAC explains the underlying relationship between social support and health in this way:

Support from families, friends and communities is associated with better health. Such social support networks could be very important in helping people solve problems and deal with adversity, as well as in maintaining a sense of mastery and control over life circumstances. The caring and respect that occurs in social relationships, and the resulting sense of satisfaction and well-being, seem to act as a buffer against health problems. (PHAC, 2013)

Furthermore, PHAC acknowledges that there is a relationship between the broader social environments and health:

The importance of social support also extends to the broader community. Civic vitality refers to the strength of social networks within a community, region, province or country. It is reflected in the institutions, organizations and informal giving practices that people create to share resources and build attachments with others. (PHAC, 2013)

Conversely, social isolation has a negative impact on health. It is associated with increased risk for Alzheimer’s disease (Kuiper et al., 2015), depression (Teo et al., 2015), being physically inactive (Reed, Crespo, Harvey & Andersen, 2011), falling (Faulkner et al., 2003) and being at nutritional risk (Locher et al., 2005). Feeling isolated

from others can disrupt sleep, raise blood pressure, lower immunity and increase the stress hormone cortisol (Cacioppo, Cacioppo, & Capitanio, 2014). In fact, a systematic review by Holt-Lunstad et al. (2010) found that lack of social relationships is equivalent to smoking as a risk factor for mortality.

There are many factors that put people at higher risk of experiencing social isolation. These risk factors include living alone, advanced age (80+), poor health/multiple chronic conditions, low income, lack of contact with family, lack of access to transportation, and changing family structure (National Seniors Council, 2014). Approximately 26% of British Columbian seniors live alone (Office of the Seniors Advocate, 2015). Seniors living alone are far more likely to have low incomes, which suggests that low-income seniors are at higher risk of social isolation (Office of the Seniors Advocate, 2015). Seniors who are caregivers, immigrants, LGBTQ, and/or Indigenous are also at greater risk for social isolation (National Seniors Council, 2014). The rates of social isolation and loneliness in our aging population may be further exacerbated by the increased prevalence of families where both adults are working full-time and the limited availability of community-based programs and services to facilitate social connectedness (Children’s, Women’s and Seniors’ Health Branch of the B.C. Ministry of Health, 2004).

Feeling isolated from others can disrupt sleep, raise blood pressure, lower immunity and increase the stress hormone cortisol.

2.2.2 INCOME

The other social determinant of health that has very important implications for seniors is income. This includes the social safety net that supports seniors living in Canada to live on fixed incomes through pension schemes and government assistance. In 2011, the median income for B.C. seniors was \$23,792 (\$30,421 for men and \$20,182 for women) which is significantly lower than the median population income of \$28,765 (Statistics Canada, 2013). While the introduction and strengthening of pension schemes has led to some significant improvements to seniors’ incomes in Canada, many seniors still fall below, or hover slightly above, the low income line (National Seniors Council, 2009). The number of low income among seniors has increased significantly in recent years (Office of the Seniors Advocate, 2016b). Particularly significant is the fact that

seniors living on their own are more than four times as likely to live in poverty as seniors living in families (28.8% compared to 6.5%) (Statistics Canada, 2016). There is a gender gap in poverty rates among single seniors, with 33.8% of women living on their own falling below the poverty line, while it is 22.5% for men (Statistics Canada, 2016). The higher poverty rates among women living on their own generally reflects their increased longevity and lower rates of labour force participation (National Seniors Council, 2009). Recent immigrants, people who have worked for less than 10 years, and/or Indigenous seniors are at particular risk of being below the low income line (National Seniors Council, 2009). As illustrated above, there are strong connections between poverty and social isolation.

Seniors living on their own are more than 4 times as likely to live in poverty as seniors who live in families. In Canada today more 33% of single senior women and more than 22% of single senior men live in poverty.

The relationship between income and health is well-established – the less income you have, the greater chance you will have poorer health. The Canadian Institute for Health Information (CIHI) reports that health inequalities exist between income groups on many key health measures (e.g., falls, diabetes, heart attacks, self-rated mental health, alcohol-related hospitalizations, and motor vehicle accidents), and these inequalities are increasing for some of the health measures. For example, CIHI reports that if Canadians at the bottom four income levels experienced diabetes at the same rate as those in the highest income category, this would result in 673,700 (32.1%) fewer Canadians with diabetes (CIHI, 2015).

Income also has a strong impact on two other social determinants of health – housing and food security – the two most significant expenses for low income seniors (National Seniors Council, 2009). B.C. is known for having some of the least affordable housing in Canada. A total of 16% of seniors experienced core housing⁶ need in 2011 in B.C. (42% of renters and 9% of owners) (CMHC, 2014). The unaffordability of housing in B.C. has clearly had an impact on seniors. A recent report by Pauly, Cross, and Weiss (2016) on homelessness and housing insecurity in the Metro Vancouver area found a 38% increase in

seniors applying for subsidized housing over the four-year period of 2012 to 2016. In Vancouver, the portion of those who are homeless who are seniors has increased from 10% in 2005 to 18% in 2016 (Thomson, 2016). Food security is another important concern for seniors. A Nova Scotia study found that the income from public pension plans (Old Age Security, Guaranteed Income Supplement, and Canada Pension Plan) was not adequate for single seniors to maintain a nutritious diet (though it was found to be adequate for couples) (Green, Williams, Johnson, & Blum, 2008).

Community-based seniors' services recognize low-income seniors as a vulnerable population and organizations often provide subsidized or low-cost services for these seniors. Levi and Kadowaki (2016) noted that many centres serving seniors also provide information and referral services to assist seniors with applying for government benefits, filing their income taxes, etc.

2.3 FOSTERING RESILIENCE

Resilience is a strength-based concept that focuses attention on the individual, social and environmental conditions that support older adults to continue to thrive in the aftermath of a significant personal loss, ill health and/or chronic health challenges (Wister, Coatta, Schuurman, Learl, Rosin, & MacKey, 2016). Researchers Zautra, Hall, and Murray (2008) provide two simple definitions for the concept of resilience: a) the ability to recover/bounce back from adverse events and b) the ability to continue to pursue the positive.

In the past, resilience was largely seen as the result of the characteristics of the individual, but it is now accepted that resilience may be impacted by multiple kinds of resources: individual, social, and environmental.

Two reviews examining the different components of resilience in older adults conclude that high resilience is associated with: a flexible and proactive problem solving style; the capacity to manage negative emotions associated with adversity; positive emotions such as optimism and hopefulness; and being physically active, socially connected and spiritually engaged (MacLeod, et al. 2016; Van Kessel, 2013). Van Kessel (2013) also points to the importance for older adults to “see the world beyond their own life,” (p.122) while Hildon, Smith, Netuveli and Blane (2008) emphasize the value of

⁶ Refers to housing that is adequate and suitable and can be obtained without spending 30% or more of before-tax household income.

There is new evidence of the beneficial impacts of resilience in mitigating some of the debilitating effects of chronic illness.



maintaining social roles and activities that are rewarding, give purpose and meaning to life, and foster a sense of personal mastery. Wild, Wiles and Allen (2012) note that resilient older adults persist with activities that are important to them even if they are challenged by multiple chronic conditions.

Increasingly, however, researchers are raising concerns that the concept of resilience unfairly shifts the responsibility for resilience onto individuals. In the past, resilience was largely seen as the result of the characteristics of the individual, but it is now accepted that resilience may be impacted by multiple kinds of resources: individual (e.g., self-efficacy, optimism, health behaviours), social (e.g., social support, family and friends, ethnic culture), and environmental (e.g., aging in place, supportive programs, community infrastructure, services and policy) (Wister et al., 2016). As a result of this shift, recent research has investigated the concept of social or community resilience, and the role social capital plays in fostering resilient communities (MacLeod et al., 2016; Zautra et al., 2008). Social capital refers to the relations of reciprocity, trust and co-operation that characterize many social networks and civil society organizations (e.g., community-based organizations, social justice groups, philanthropic organizations, independent research institutes). Social capital makes it possible for people to work together and build social cohesion in their lives and their communities.

Domajnko and Pahor (2014) go beyond social capital, *per se*, to emphasize the importance of the underlying societal forces (i.e. the macro-economic and political context) that determine the level of poverty, income inequality,

social and physical infrastructure, and redistributive policies within a given society. Consequently, there is a need for social resources to support people (particularly low-income and isolated seniors) to re-engage with community once they have experienced personal and/or health challenges (Domajnko and Pahor, 2014). Chappell, Funk, Carson, MacKenzie, and Stanwick (2006) have created a multilevel community health promotion framework, which highlights the possibility for interventions at the individual, group, organizational, community and macro/policy levels. Taking these different levels into consideration will result in more effective resilience-building interventions.

There is new evidence of the beneficial impacts of resilience in mitigating some of the debilitating effects of chronic illness. This can include delaying (or limiting) functional decline and subsequent disability (Manning et al., 2014). The converse is also true – poor health can limit a person’s ability to be resilient (Domajnko & Pahor, 2014). Ouwehand et al. (2007) provide evidence that poor physical health can significantly reduce an individual’s capacity to develop coping strategies needed to help to minimize the negative impacts of future loss or illness. However, even seniors with health problems can express resilience; for example, in Canada, 74% of seniors have at least one chronic condition, yet 77% report their health is excellent, very good, or good (CIHI, 2011). While research suggests that all seniors are capable of resilience regardless of age, socio-economic background, health and personal experience, older women appear to have higher levels of resilience than men and younger women. According to MacLeod et al. (2016), this is because they are “particularly skilled at establishing and

maintaining social connections, reaching out to help others, and connecting through volunteer and community involvement” (p.4).

2.3.1 INTERVENTIONS THAT HELP BUILD RESILIENCE

The question of how to successfully foster resilience in individuals and communities is a challenging one, and one that research has not yet fully answered. Resilience necessitates a shift away from traditional biomedical interventions and towards interventions that recognize and build on strengths. MacLeod et al. (2016) suggest that the resilience interventions that are most likely to be successful are ones that are person-centered and build on individual strengths and interests.

Social support is a particularly important resilience factor, and therefore is an important target for resilience-enhancing interventions.

Lavretsky (2014) writes that interventions that promote resilience can operate at different levels (e.g., small scale interventions focused on the individual, or large scale societal interventions) and different points in time (e.g., before, during or after adversity). For example, health literacy, health knowledge and self-care strategies are examples of interventions that focus on fostering resilience at the individual level. Wister et al. (2016) point out that optimal timing for these interventions “may be during moderate episodic pain and immobility at which point the individual is challenged by their chronic illness” (p.303) but not overwhelmed by it.

In their systematic review of the resilience literature, Van Kessel et al. (2013) note that social support is a particularly important resilience factor, and therefore is an important target for resilience-enhancing interventions. Similarly, Janicki-Deverts and Cohen (2011) recommend that more interventions should attempt to build social relationships, and in particular, work to enhance already existing social support networks. Some examples from the literature that identify the link between resiliency and social support are:

- Sells et al. (2009) interviewed 33 patients with multiple chronic conditions and found that both receiving and giving social support were the key factors to adaptation and personal resilience.

- Netuveli, Wiggins, Montgomery, Hildon and Blane (2008) analyzed data from 3,581 older adults in the *British Household Panel Survey* who had experienced adversity and classified 14.5% of the sample as resilient. They found that high levels of social support, both before and at the time of adversity, increased the likelihood of being resilient by 40-60%. Resiliency increased with age and was more prevalent among women.
- In a sample of 174 British older adults, Hildon, Montgomery, Blane, Wiggins and Netuveli (2010) found that in high adversity situations, good quality relationships, integration in the community and positive coping styles were associated with resilience.
- Fuller-Iglesias, Sellars and Antonucci (2008) found in a sample of 99 older adults that despite the high levels of adversity of their circumstances, older adults with larger social networks and positive relationships with their spouse reported lower levels of depressive symptoms and higher life satisfaction.
- In a survey of 365 older adults, Jopp, Rott and Oswald (2008) found that resilient older adults positively adapted to functional decline by using telephone contact to maintain social connections.

MacLeod et al. (2016) highlight the importance of interventions that foster optimism and positive emotion. They point to the fact that research shows that cognitive behavioral therapy, mindfulness, and activities that enhance happiness – all of which are focused on increasing positive emotions – are more effective in fostering resilience than interventions focused on reducing negative thoughts and behaviours. Some of the specific strategies that have proven effective in building resilience among older adults include activities that: a) build capacity to savour positive experiences; b) encourage the anticipation of future events; and c) strengthen positive relationships that trigger happiness (MacLeod et al., 2016).

Some intervention strategies that have the potential to build resilience (based on the work of Lavretsky [2014] and the literature summarized above) include interventions that:

- Foster social connectedness and civic engagement (e.g., meaningful volunteering opportunities, social networking, educational and resource sharing, etc.).

- Build skills that increase positive emotions and more effective coping strategies (e.g., stress reduction techniques; activities that enhance happiness; meditation; community-engaged dance, music, theatre and arts programming, etc.).
- Support lifestyle changes (e.g., access to nutritious low-cost meals and physical activities).
- Provide technology-based interventions to support homebound seniors (e.g., online support groups, telemonitoring, etc.).
- Enhance primary and secondary prevention of chronic conditions including mental health challenges (e.g., chronic disease self-management support groups, community wellness initiatives, peer counselling, etc.).
- Increase problem-solving capacity (e.g., education and awareness building on how to become resilient in the face of loss and adversity; information, skills building and advocacy services to help in negotiating government income support programs; housing and transportation options; community resources; community health services; etc.).

These individual and community-based interventions are often dependent on the broader macro policy initiatives that support resiliency. This includes investment in public infrastructure (e.g., recreation facilities, public transportation system, affordable housing), a system of support for family caregivers, and an expansion of community health and health promotion programming. While a review of these macro strategies is beyond the scope of this report, the below section includes examples of interventions that integrate resilience and social support with health services, as a way of improving health outcomes and better supporting older adults living with chronic health challenges.

2.4 INTEGRATING RESILIENCE AND SOCIAL SUPPORT WITH HEALTH SERVICES

As people age their mobility often becomes more restricted, their personal support networks begin to shrink and they are more likely to become isolated. Recent longitudinal research with seniors in the UK shows that seniors can, in effect, “recover” from loneliness with all the potential health, social and quality of life benefits that this can bring” (Victor & Bowling, 2012, p.327). This “recovery” is facilitated by two important interventions: enhanced social networks and improved management of

These individual and community-based interventions are often dependent on the broader macro policy initiatives that support resiliency.

This includes investment in public infrastructure (e.g., recreation facilities, public transportation system, affordable housing), a system of support for family caregivers, and an expansion of community health and health promotion programming.

mental and physical chronic health challenges (Victor & Bowling, 2012).

Gesundes Kinzigtal (Healthy Kinzigtal) is a regional health system in Germany that provides an example of a whole-system intervention that integrates resilience and health promotion approaches to enhance social connectedness within a broader health system redesign (Hildebrandt, Hermann, Knittel, Richter-Reichelm, Siegel, & Witzenrath, 2010). As part of their integration plan, the region introduced a number of initiatives to improve coordination, self-management, health promotion, and secondary prevention for people living with chronic health conditions for both seniors and people living with mental illness. The region now offers a variety of different health promotion and self-management programs (e.g., active health promotion for the elderly, chronic heart failure program, etc.), provides funding for individuals to participate in community health promotion programs (e.g., exercise programs, leisure clubs, etc.), and connects individuals to local social care services (Hildebrandt et al., 2010; Hildebrandt, 2014). An evaluation of *Gesundes Kinzigtal* found that over a five-year period costs per person in the Kinzigtal region were 16.9% less than costs for individuals living in a control region (cost savings of €327 per person) (Hildebrandt, Schulte & Stunder, 2012). *Gesundes Kinzigtal* provides an example of an effective model of health system integration that includes a focus on community-based resilience and health promotion approaches, and that realized significant cost savings. Appendix 2 provides a more in-depth description of *Gesundes Kinzigtal*.

Self-management is an example of an intervention that fosters resilience. This is achieved by educating and supporting older adults (in group sessions or through one-to-one coaching) to better manage their chronic

Self-management is an example of an intervention that fosters resilience by educating and supporting older adults (in group sessions or through one-to-one coaching) to better manage their chronic health challenges.



health challenges. Self-management is one of the initiatives introduced into the Kinzigtal region and has also emerged as an important priority for the Canadian healthcare system, due to the high number of people in Canada living with chronic conditions. As noted earlier, 74% of older Canadians have at least one chronic condition. Through self-management programming individuals are supported by healthcare providers and/or trained volunteers to learn what they need to do on a daily basis to cope both emotionally and practically with their chronic health challenges. Important factors that contribute to successful self-management include: motivation; confidence in self-management; health literacy; support from family, friends, and peers; and support from primary healthcare providers (Health Council of Canada, 2012). Primary care providers play a key role in self-management through treatment and linking patients to community services (Health Council of Canada, 2012).

Within B.C., the provincial government has recognized self-management programs as a crucial resource for individuals living with chronic conditions and provides support for the provincial organization, Self-Management British Columbia. The program is based on the Chronic Disease Self-Management Program (CDSMP) created by Lorig and other researchers (1999) at Stanford University. CDSMP is a seven-week group program taught by lay leaders (i.e. non-service providers) and is considered to be the gold standard of self-management programs. A

randomized control trial of the program (n=831) found that participants exhibited increased self-efficacy, lower health distress, and fewer physician and hospital visits over a two-year period. It was estimated that over the two years, there was a reduction of 2.5 hospital and physician visits per person with cost-savings of \$390 to \$520 per participant (Lorig et al., 2001).

Based on this CDSMP model, Self-Management British Columbia offers chronic disease, diabetes, cancer and chronic pain self-management programs at different sites across the province (including programs in Punjabi and Chinese-speaking communities and Indigenous communities). From 2000 to September 2016 the program organized 600 leader trainings and trained 5,555 volunteer program leaders who delivered 2,834 workshops in 199 communities province-wide to 32,463 participants (K. Hannah, Personal Communication, October 20, 2016).

Community Action and Resources Empowering Seniors (CARES) is a recent proactive primary healthcare intervention from Fraser Health Authority which integrates self-management into an intervention to delay frailty⁷ in seniors. In the intervention, primary care providers identify and conduct comprehensive

⁷ There is no consensus on the definition of frailty, but it can generally be conceptualized as a state where a senior experiences increased vulnerability due to chronic conditions, disability and/or cognitive impairments.

Community Action and Resources Empowering Seniors (CARES) is a recent proactive primary healthcare intervention from Fraser Health Authority which integrates self-management into an intervention to delay frailty in seniors.

assessments of seniors who are at risk of frailty. A wellness plan is then developed that focuses on the goals the senior identifies as most important to their health and quality of life. A volunteer wellness coach from Self-Management British Columbia is paired with the senior to help them achieve their goals by tracking their progress, providing encouragement and motivation, and connecting them with resources in the community. After six months the senior is re-assessed by their primary care provider. A six-month pilot of CARES found a statistically significant decrease in frailty scores (average decrease of 0.032) in intervention participants, which was the equivalent to having two less health problems at follow-up. There were also improvements on other outcome measures, such as level of physical activity, mobility and social engagement (Canadian Foundation for Healthcare Improvement, 2016). Fraser Health Authority is currently working to expand CARES to more communities in the region.

Restorative care is another example of an intervention that takes a comprehensive strength-based approach in supporting older adults facing adversity or chronic health conditions. Increasingly the focus of healthcare interventions, particularly for seniors with significant multiple chronic conditions, is to support the individual to optimize their function and comfort rather than to treat or cure a specific disease (Tinetti, Baker, Gallo, Nanda, Charpentier, & O'Leary, 2002). Restorative care (also known as Reablement) is a team-based approach to care that reduces reliance on healthcare service by helping "people regain and/or maintain their physical and cognitive function and independence (after an illness, disability or crisis or to halt any decline in capabilities) enabling the person to continue to look after themselves." (Department of Social Services, 2014, p.23). In a restorative care intervention, an assessment is conducted and goals and an action plan are established collaboratively by the healthcare practitioner and the older adult.

Interventions not only address medical issues, but also social issues and issues with the environment the person lives in (Department of Social Services, 2014). In other words, with a restorative care model, people are supported with educational and rehabilitation resources

to better cope with their health challenges, improve their functional capacity, manage their activities of daily living independently, and re-engage with community and friendship networks. To date research on restorative care has focused on seniors who have experienced a setback but who have the potential, if supported, to regain their independence. As a result, it is still unclear how much the restorative care model can help seniors who are frail and have more complex needs.

One of the most well-known restorative care programs is the Australian Home Independence Program (HIP). HIP is an early intervention program offered as an alternative to regular home care services which uses targeted interventions (e.g., self-management, development of social support, utilization of local community resources, etc.) to optimize functioning (Lewin & Vandermeulen, 2010). A randomized controlled trial comparing HIP to regular home care found that HIP participants used fewer home care hours (Lewin et al., 2013; Lewin et al., 2014). They were also less likely to require home care services at 12-month follow-up, less likely to require higher level care and less likely to have been to the ER or have an unplanned hospitalization. Furthermore, total healthcare costs for HIP clients were \$19,090 versus \$23,428 for regular clients (assessed at a two-year follow up) (Lewin et al., 2014).

Restorative care (also known as Reablement) is a team-based approach to care that reduces reliance on healthcare service by helping "people regain and/or maintain their physical and cognitive function and independence (after an illness, disability or crisis or to halt any decline in capabilities) enabling the person to continue to look after themselves."

There is a need to re-examine the appropriateness of current senior centre programs and models in order to support a more racial and ethnically diverse population.

3. A Summary of the Literature on the Community-Based Seniors' Services Sector

There has been limited literature published on the community-based seniors' services sector in Canada. This gap in the research may be due, at least in part, to the lack of cohesion and heterogeneous nature of the sector. One area of the sector where a body of literature has developed is around senior centres in the U.S.⁸. As there are lessons to learn from the U.S. context, highlights of the significant themes found in this literature are presented below. There are a small number of articles on senior centres in Canada that generally report similar findings to the American literature (these articles are published primarily as grey, non-academic literature and are summarized in Section 3.5 below). Levi and Kadowaki's (2016) report on community-based seniors' services in Metro Vancouver (outlined in Section 1.2) highlights the relevance of the findings in a more local context.

3.1 TYPICAL PROFILE OF SENIOR CENTRE PARTICIPANT

Senior centres provide a wide range of programming that is primarily targeted toward an older population of seniors, the majority of whom are women. (e.g., Pardasani, 2004a; 2010; Casteel, Nocera, Runyan, 2013; Fitzpatrick, Gitelson, Andereck, & Mesbur, 2005a; Fitzpatrick, McCabe, Gitelson, & Andereck, 2005b).

3.1.1 GENDER

Studies have found that at senior centres women generally outnumber men at a ratio of 2 or 3 to 1 (e.g., Pardasani, 2010). Older women are, on the whole, more vulnerable, due to their higher likelihoods of living alone; being single; and being low income (Hudon & Milan, 2016). A study by Aday, Kehoe and Farney (2006) found that women reported improvements in life satisfaction

⁸ In some of the U.S. literature the definition of senior centres is quite broad, including for example multi-purpose senior centres, meal programs, local area agencies on aging, etc. Therefore, this literature covers a wider variety of community-based seniors' services than the name would imply.

and mental well-being due to their participation at senior centres, with women living alone reporting the greatest benefits. The longer life expectancy of women also contributes to their increased participation rates. Pardasani (2010) notes that as the gap between male and female life expectancy narrows, we may see more male participants at senior centres and hence may need to consider this in program planning.

3.1.2 RACIAL AND ETHNIC DIVERSITY

The lack of racial and ethnic diversity at senior centres is an important issue documented in the U.S. literature, with several studies noting low rates of participation by "racial and ethnic minorities" (Pardasani, 2004a; 2004b; 2010; Fitzpatrick et al., 2005a; Rill, 2011). Giunta et al. (2012) found that diverse participants are more likely to have lower levels of social support and are less likely to use primary care services, suggesting that senior centre participation may particularly benefit diverse populations. This is corroborated by Gitelson, Ho, Fitzpatrick, Chase and McCabe (2008) who found that non-white seniors reported higher perceived social, information, and health benefits from senior centre use than did white seniors.

The growing diversity of senior populations will only make the underutilization of senior centres by "racial and ethnic minorities" a more important concern in the future (Giunta et al., 2012). Pardasani (2010) suggests there is a need to re-examine the appropriateness of current senior centre programs and models in order to support a more racial and ethnically diverse population. Pardasani (2004b) found that centres with more racially and ethnically diverse staff are more likely to have programs that reflect this diversity (including offering programs in languages other than English).

3.1.3 INCOME

Multiple studies have reported that the majority of senior centre participants are low or middle income. For example, Fitzpatrick et al. (2005a) found that, in Ontario, 70% of senior centre participants had incomes below \$35,000. In another study, Fitzpatrick et al. (2005b) found that low-income seniors received more health and social benefits from participation in senior centres than seniors with higher incomes. Furthermore, both Pardasani

(2010) and Rill (2011) have found the availability of inexpensive programs is one of the main motivators for people to participate in senior centre programming.

3.1.4 AGE

The average age of senior centre participants is 75, with the age categories of 75-84 making up the largest number of participants, followed by the 65-74 age range (Pardasani, 2010; Fitzpatrick et al., 2005a). Attracting younger seniors is an important concern mentioned in the literature. At the same time, concerns have been raised about the difficulty older and higher needs seniors may have in accessing senior centres (Pardasani, 2010). Some researchers (e.g., Pardasani, 2010) question the assumption that senior centres should cater to all seniors (of all ages), given the wide age range (i.e. in some cases the range is over 50 years) and diverse needs and interests of seniors of different ages. They suggest that to be more effective, perhaps centres should focus on a specific segment of the senior population (i.e. older seniors).

3.2 SENIOR CENTRE PROGRAMS AND REASONS FOR PARTICIPATION

Senior centres offer a wide variety of programs and services to their participants. Centres in Metro Vancouver offer a wealth of programs in the areas of food and nutrition, health and wellness, fitness and sport, recreation, creative arts, education and informational and referral (Levi & Kadowaki, 2016).

The New York City Department for the Aging (n.d.) has conducted extensive research on senior centres in New York, and they suggest that senior centres should be providing programming in five core areas: nutritional support; links to other services and benefits; links to community resources; health promotion programs; and opportunities for socialization. In addition to typical recreational programs, Pardasani (2004a) reports that approximately 2/3 of senior centres offered volunteer opportunities (in the centre) for seniors, 3/4 offered health education and exercise/fitness programs, 3/4 offered on-site meal programs, and 4/5 offered information and referral services. In surveys of senior center users, meal programs have been recognized as the most frequently utilized service in the U.S. (Pardasani, 2004a; Pardasani 2010), with the majority of users being low income, and a disproportionate number being female, from a "racial and ethnic minority", and/or living on their own (Gitelson et al., 2008).

Socialization is the most important reason seniors participate in senior centres (Pardasani, 2010). Rill

The main goal of the senior center movement has been to offer socialization opportunities for their elderly members and provide services that allow them to live independently within their communities.

The mandate for senior centers has been expanded to include a focus on preventing or delaying long-term institutionalized care.

(2011) found through research at a senior centre in Florida that the benefits of participation that were most important to seniors were having fun, learning new ideas/skills, making new friends, belonging to a group, relaxation, and staying physically active.

3.3 TRANSPORTATION AS A KEY PROGRAM SUPPORT

Many seniors are not participating in senior centres because of transportation challenges (Walker, Bisbee, Porter and Flanders, 2004; Pardasani, 2010). Lack of available transportation is a particular barrier for seniors living in suburban and rural areas, and affordability and availability of public transportation is a critical factor in promoting participation (Pardasani, 2010). Both Pardasani (2010) and Walker et al. (2004) suggest that senior centres should work with communities to plan transportation services and advocate for stronger transportation systems and resources.

3.4 FOCUS ON HEALTH PROMOTION AND PREVENTION

Pardasani (2004a) notes that there has been a gradual change in the role of senior centres, stating that:

The main goal of the senior center movement has been to offer socialization opportunities for their elderly members and provide services that allow them to live independently within their communities. The mandate for senior centers has been expanded to include a focus on preventing or delaying long-term institutionalized care. (p.41)

As noted earlier, the offerings of senior centres go far beyond typical recreational programs.

This perception of a shift in the focus of senior centres is supported by the findings of Casteel, Nocera, and

Runyan (2013). They reviewed health promotion and physical activity programs in a random sample of 500 senior centres in the U.S. and found an increase in the percentage of centres providing health screening, health maintenance, health education and exercise programs. Casteel et al. (2013) note that senior centres in urban centres were more likely to offer health promotion and prevention programs.

This increase in health promotion and prevention has also been observed in senior centres in Metro Vancouver, demonstrated by the existence of strong health and wellness programs in many centres (e.g., self-management programs, wellness clinics, peer support, adult day service type programs, etc.) (Levi & Kadowaki, 2016).

Common characteristics of innovative centres: collaboration, responsiveness, accountability, creativity and ingenuity, passion.

3.5 INNOVATIVE PRACTICES IN SENIOR CENTRES

Pardasani, Sporre, and Thompson (2009) conducted a study on innovative practices in senior centres in the U.S. and identified the following common characteristics of innovative centres (2009, p.51-53):

- Collaboration: Strategic partnerships with external agencies, institutions, and other groups are essential to expanding influence and ability to offer programs and services to a diverse population of seniors.
- Responsive: Strategic assessments are used to capture demographic profiles, needs, and interests and suitability of resources, as “almost all senior centers who offered data-driven programming reported an increase in participation and revenue.”
- Accountability: Structures are needed to ensure consistent and on-going feedback from board, staff, users and community. Evidence suggests that a coordinated and streamlined data collection process and evaluation process to ensure best practices leads to “greater recognition, funding and membership.”
- Creativity and Ingenuity: This is key to centre design and programming due to limited resources.

- Passion: Passion is needed from the administration in terms of confidence in “the overall purpose and future of [the] senior centre” and commitment to participants, community and organization.

Senior centres in Metro Vancouver also incorporate many of these innovative practices, particularly in the areas of partnerships, creativity and passion. These practices have contributed to the ability of these centres to offer programming and services in resource-scarce environments (Levi & Kadowaki, 2016).

3.6 CANADIAN REPORTS ON SENIOR CENTRES

Several municipalities and regional organizations in Canada have produced reports reviewing the senior centres in their area. While the reports are considered grey (non-academic) literature and are generally descriptive in nature, they reinforce the key themes found in the academic literature.

The University of Alberta conducted a review of senior centres in Alberta, which included urban centres and a number of smaller rural centres (Whitefield & Daniels, 2014). Major findings of the 2014 report include:

- Only 68% of senior centres reported having paid staff and over 40% of centres had a budget of \$10,000 or less, suggesting that this sector is significantly under-resourced.
- Rural centres were more likely to charge membership and programs fees, often due to lack of funds.
- The top perceived strength of senior centres was providing a place for seniors to gather and socialize.
- The biggest challenges for senior centres were attracting new members and lack of funding.
- The most common requested improvement was renovations to their centre.

In 2010, the Older Adult Centres Association of Ontario (OACAO) completed a review of senior centres in Ontario (OACAO, 2010). Key findings include:

- Approximately 9% of the senior population in Ontario use older adult centres. Similar to the literature from the U.S., the majority of participants were women (74%) and minorities were significantly underrepresented (4%). Unlike the U.S., however, participants seemed to



The most common benefit of participation in senior centres was opportunities for social participation.

primarily fall into the middle-income range.

- Centres reported very high rates of volunteerism – over 50% of members were active volunteers at their centre.
- There has been a shift in senior centre focus to health and fitness programs in order to appeal to younger seniors.
- Most centres do not provide direct community support services, with just over one third offering day programs, meals and/or transportation.
- A fundamental weakness of senior centres was the lack of linkages to existing community and primary care services.
- One of the strengths identified was the relatively low fees for membership and programs.

Finally, Novek, Menec, Tran, and Bell (2013) explored the social benefits of participation in senior centres in Winnipeg. They found:

- The most common benefit of participation in senior centres was opportunities for social participation.
- Other benefits of participation in senior centres included: help in leading a more active and healthy lifestyle; improved well-being, quality of life, and health (mental and physical); opportunities for lifelong learning; and volunteering.
- Staff reported the biggest challenges as funding, capacity, and reaching certain populations of seniors.

In the conclusion of their report, Novek et al. (2013) state:

Research demonstrates the benefits of social participation to older adults' physical and mental health. The potential cost savings of enhancing social participation and consequent health benefits should be explored. (p.55)

3.7 THE FUTURE OF THE SECTOR

Pardasani and Sackman (2014) surveyed 155 New York City senior centre directors to gain their perspectives on the future of senior centres. Budget constraints and space were identified as the most significant barriers to daily operations. If they had more resources, directors would provide more creative arts programs, targeted health screenings and services, assistance with appointments, and college level courses. The top five identified priorities for additional funding included more programs/services and staff to provide them, improvements to space, improvements to meal service, more health promotion programs, and provision of transportation (Pardasani & Sackman, 2014). These challenges identified by the New York senior centre directors are very similar to the ones identified in the research on Metro Vancouver senior centres by Levi and Kadowaki (2016).

In another study surveying 376 senior centre administrators across the U.S., funding was identified as the central challenge for senior centres (Pardasani & Goldman, 2012). Other concerns they raised, such as transportation and space, are closely related to funding issues. This study emphasized the importance of collaborations and the need to become more skilled at strategic policy advocacy in order to address funding challenges (Pardasani & Goldman, 2012).

4. Linking Nutrition, Physical Activity, and Social Support to Health Outcomes

Nutrition, physical activity, and social support are three key areas in which the evidence suggests community-based seniors' services may substantially impact the health and well-being of seniors and reduce healthcare utilization and costs.

4.1 NUTRITION

Since the 1900s, significant progress has been made in nutrition science. Nutrients/food intake are now linked with overall health, with nutrient-deficiency being linked to poor health and chronic disease (Paulionis, 2008). Seniors are considered to be particularly vulnerable to nutritional risk (risk of malnourishment). This is due to a number of factors including age-related physiological changes, disease, reduced mobility, social and economic circumstances, psychological factors, and aspects of the physical environment (e.g., availability of public transportation, location of grocery stores, etc.) (Ramage-Morin & Garriguet, 2013). Nutritional risk can be related to food insecurity, which is the inability to access adequate food resources. Financial constraints, functional disability and social isolation are key contributors to food insecurity in seniors (Keller, Dwyer, Edwards, Senson, & Edward, 2007).

Data from the 2008/2009 Canadian Community Health Survey showed that approximately 1/3 (34%) of seniors in Canada living in the community were at nutritional risk. Nutritional risk is higher if seniors are female, have a low income, live alone, have infrequent social participation, experience low social support, struggle with depression, have a disability, take prescription medications, and/or have poor oral health (Ramage-Morin & Garriguet, 2013). Similarly, a pooled analysis by Kaiser et al. (2010) (that included data from all five continents) found that 5.8% of community-dwelling older adults were malnourished, and 31.9% were at risk of malnourishment. In other settings malnourishment rates were 13.8% in nursing homes; 38.7% in hospitals; and 50.5% in rehabilitation settings (Kaiser et al., 2010).

Nutrition, physical activity, and social support are three key areas in which the evidence suggests community-based seniors' services may substantially impact the health and well-being of seniors and reduce healthcare utilization and costs.

In acute care settings,⁹ malnutrition has been shown to have a negative impact on health outcomes, and is associated with increased mortality, increased length of hospital stay, readmission to the hospital, complications, and increased healthcare costs. Recently, the Canadian Malnutrition Task Force found that approximately 45% of patients who came into hospital were moderately or severely malnourished, and these patients had longer hospital stays than well-nourished patients (research used patient data from 18 hospitals [n = 956]). On average, malnourished patients cost an additional \$1,500 - \$2,000 per hospital stay, resulting in additional costs to the healthcare system of approximately \$1.56 to \$2.1 billion per year (Curtis et al., 2016). In another study by the Task Force, the main risk factors for malnutrition in hospital patients were identified as patients with complex conditions, who were living alone, and/or relied on adult children for grocery shopping (Allard et al., 2016).

Appendix 3 provides an overview of the Canadian Malnutrition Task Force studies and other relevant studies linking malnutrition with healthcare utilization and healthcare costs, not only for seniors, but for patients of all ages:

- Two studies found that high nutritional risk was associated with an approximately 50 percent increased likelihood of hospitalization for patients (Buys et al., 2014; Baumeister et al., 2011).
- Being moderately/severely malnourished was associated with longer hospital stays, increased risk of readmission to hospital, and an almost three times greater risk of mortality at the three-year follow-up (Lim et al., 2012).
- An estimate of total hospital costs (daily hospital costs, drugs and tests) for a sub-sample of

⁹ While most of the studies in acute care settings have not focused exclusively on senior patients, the average age of patients reported in the study samples are normally around 65.



On average, malnourished patients cost an additional \$1,500 - \$2,000 per hospital stay, resulting in additional costs to the healthcare system of approximately \$1.56 to \$2.1 billion per year

respiratory infection patients found that costs for malnourished patients were up to 300% higher than for well-nourished patients (Correia & Waitzberg, 2003).

While malnutrition is linked to negative health outcomes, a healthy diet has been found to be linked to positive health outcomes for seniors. Milte and McNaughton (2016) conducted a systematic review of the literature on dietary patterns and successful aging, and found strong support for a relationship between a healthy/quality diet and better cognitive function and mental health.

Studies have found the nutritional status of malnourished or at-risk older adults can be improved with nutritional interventions (e.g., dietetic referral and advice, nutrition information resources, Meals on Wheels, community services). Hamirudin, Charlton and Walton (2015) found that all of the eight nutrition intervention studies they reviewed for community-dwelling older adults facing malnutrition reported improvements in nutritional status after intervention. Lee, Fischer, and Johnson (2010) found for seniors in Georgia the positive outcomes of food and nutrition programs included increased fruit and vegetable consumption, improved knowledge of healthy diet/health guidelines, decreased risk factors for osteoporosis, and improved diabetes self-management.

Canadian researchers Keller et al. (2007) conducted focus groups with community service providers and found that in addition to providing food services, providers saw themselves playing a variety of different roles to enhance the nutritional status of seniors. These included monitoring, coordination, promoting services, education, advocacy, and providing a social environment. Keller et al.

(2007) state that social and community service providers “need to be regarded and treated as health promotion services within health care systems” (p.326).

It should also be noted that the acts of preparing and eating meals carry significant cultural and social value for seniors. A systematic review of studies examining family/shared meal frequency found that eating alone was associated with poor nutritional health in seniors (Fulkerson, Larson, Horning, & Neumark-Sztainer, 2014). Plastow, Atwal, and Gilhooly (2015) reviewed research on the relationship between food activities and identity in later life, and food activities were found to play an important role in gender, ethnic, and community identities. In a report prepared for the B.C. MoH on the experiences of ethnic minority older adults, it was noted that:

*Food is symbolic and communicative. **What** is and is not eaten, **when** it is eaten, **with whom** it is eaten, **how** it is served all inform the individual's identity, first to him- or-herself, then to the ethnic group of which he or she is a member, and finally, to the immigrant's host society. (Koehn, 2001, p.iv)*

4.2 PHYSICAL ACTIVITY

It is widely accepted that physical activity is good for one's health throughout life, including at advanced ages. It is positively linked with physical and mental health, disease prevention and management, emotional and social well-being, and autonomy and independence (Health Canada, 2002). While the *Canadian Physical Activity Guidelines* recommend a minimum of 150 minutes of moderate to vigorous physical activity a week in order to accrue health benefits, the 2012/13 Canadian Health

Measures Survey found that only 12% of Canadians aged 60-79 were meeting these guidelines (Statistics Canada, 2015b). In addition, earlier data from the 2007/09 and 2010/11 Canadian Health Measures Survey, shows that approximately 94% of those living in Canada aged 60-79 were sedentary for 8 or more hours a day (Copeland, Clark, & Dogra, 2015).

Inactive seniors incur over 2.5 times the healthcare costs compared to physically active seniors, adding an estimated annual cost of \$5.6 billion to the healthcare system

Systematic reviews have also shown that physical activity interventions can improve aspects of physical function in seniors (e.g., mobility, balance, activities of daily living, etc.) (Liu, Shiroy, Jones & Clark, 2014; de Vries et al., 2012; Bouaziz, Lang, Schmitt, Kaltenbach, Geny, & Vogel, 2016). Physical activity has also been linked with the management and prevention of some of the most common chronic diseases and health conditions including cardiovascular disease, hypertension, osteoporosis, type 2 diabetes, colon and breast cancer, arthritis, and strokes (Health Canada, 2002). A systematic review examining the relationship between physical activity and cognitive decline/dementia found that people with higher levels of physical activity had a lower risk of developing cognitive decline (Risk Ratio = 0.65) and dementia (Risk Ratio = 0.86) compared to people with lower levels of physical activity (Blondell, Hammersley-Mather & Veerman, 2014).

Physical activity is also considered to be a key component of comprehensive multifactorial interventions for falls prevention. Falls are the number one cause of injury-related hospitalizations for seniors in Canada. They are estimated to result in an additional \$2 billion in healthcare costs each year (PHAC, 2014). A systematic review and meta-analysis found that exercise programs reduced the risk of falls (Risk Ratio = 0.83) and were particularly effective when they included balance components (Sherrington et al., 2008).

Multiple studies have also linked physical activity with decreased healthcare utilization and costs. Appendix 4 provides an overview of the relevant studies. Some of the key findings from these studies include:

- Physically inactive seniors in Canada have significantly higher rates of health resource

use. Inactive seniors incur over 2.5 times the healthcare costs compared to physically active seniors, adding an estimated annual cost of \$5.6 billion to the healthcare system (Woolcott et al., 2010).

- Moderate or vigorous physical activity is associated with a reduced number of prescriptions (Simmonds et al., 2014).
- Physical activity is associated with decreased likelihood of ER visits and hospitalizations in community-dwelling seniors. Reductions in health service utilization were seen even for seniors who had only started becoming physically active between ages 78-85, suggesting that starting physical activity even at advanced ages can have benefits (Jacobs, Rottenberg, Cohen, & Stessman, 2013).
- Over a two-year period, participation in a physical activity program was found to reduce healthcare costs for participants (about \$1,186 less), in comparison to the control group. Most of the cost savings were from reduced hospitalizations (Ackermann et al., 2008).

4.3 SOCIAL SUPPORT

For this report, social support¹⁰ will be defined using the definition proposed by the *SMART Fund* (Lansdowne, 2011, p.5):

Social support encompasses social networks and the functional support that they provide. Social support works to strengthen existing network relationships and extend network ties; to reduce isolation and promote connectedness; to increase self-esteem and coping abilities; to develop new skills and encourage productive participation; and to promote and enhance collective problem solving and reciprocal support.

The relationship between social support and health may be less readily apparent than the relationships of health

¹⁰ There are other social concepts which are distinct but closely related to social support, such as social isolation, social networks, etc. In the literature these social concepts are often used interchangeably and it can be difficult to unravel them as they often share characteristics, may be considered a component of other social concepts, or have reciprocal influences on each other. The discussion included here attempts to focus primarily on social support (and also social isolation as a key related social concept), but also references literature on social participation/activity, social capital, social vulnerability, loneliness and social connection.

The relationship between social support and health may be less readily apparent than the relationships of health with nutrition and physical activity, but research suggests that social support is every bit as important for seniors.



with nutrition and physical activity, but research suggests that social support is every bit as important for seniors.

A report by the Children's, Women's and Seniors' Health Branch of the B.C. Ministry of Health states that "[s]ocial integration and participation of older adults in society are frequently seen as indicators of productive and healthy aging and it is widely accepted that social support has a strong protective effect on health" (2004, p. 6).

While the exact mechanisms through which social support affects health are still being investigated, researchers have explored several different potential casual pathways. Uchino (2006) argues that social support affects health through behavioral and psychological processes that, in turn, influence biological pathways. In the research, the strongest support has been found for the relationship between social support and health that are mediated by cardiovascular and immune pathways (Uchino, 2006):

- **Cardiovascular Pathways:** It has been proposed that social support serves as a buffer for cardiovascular stress, and there is evidence linking social support to improved cardiovascular function.
- **Immune Pathways:** There is strong evidence linking social support with improved immune function, and in particular social support, has been associated with killer cell activity (i.e., white blood cells that destroy infected or cancerous cells).

Recent research by Yang et al. (2016) incorporating data from four nationally representative longitudinal U.S. studies, found additional evidence for the role of cardiovascular pathways across the life course. Social isolation (Odds Ratio = 2.42) was found to exceed diabetes as a risk factor for high blood pressure in older adults.

From a neuroscience perspective, it has been suggested that the human brain has evolved to put individuals into a preservation mode when they are isolated or without social support (which was useful in early times as it enhanced the likelihood of survival for lone humans). As a result, social isolation is associated with increased anxiety, sleep disruption, elevated vascular and endocrine activity, decreased impulse control, and increased depressive symptoms. In the short-term, these responses can be preservation methods, but in the long-term they can have negative impacts on one's health (Cacioppo, Cacioppo & Capitano, 2014).

While there is no clear consensus on the exact mechanisms through which social support impacts health, multiple empirical research studies have provided evidence to support the connections between social support and health outcomes in seniors. Evidence of the health benefits of social support are provided in both systematic reviews and individual studies (see Appendix 5 for a full list of the studies). This research documents how social support slows cognitive decline, delays the progression of physical disability, has a positive impact on mental well-being and increases longevity. In turn, social isolation is associated with the increased incidence



of depression, negative health behaviours (e.g., smoking, physical inactivity, etc.), higher blood pressure, and inflammatory markers.

An interesting study out of Europe compared social vulnerability in several European countries and found significant differences when comparing countries with different welfare state model types (Continental, Mediterranean and Nordic).¹¹ The research concluded that in Nordic countries, whose welfare state models traditionally offer the most comprehensive government benefits and supports, social vulnerability was not a predictor for mortality and disability. This suggests that the strong social support infrastructure in the Nordic countries provides social protection and support for vulnerable seniors.

The relationship between components of social support and healthcare utilization and costs is becoming of increasing interest to research and policy communities. In a report on social support, the Children's, Women's and Seniors' Health Branch of the B.C. Ministry of Health states:

Although the relationship is complex and difficult to isolate, links are present between social isolation, loneliness and health and social service usage. Social isolation and loneliness can be associated with reduced service usage when seniors are unaware of services that they may use otherwise, or [increased usage] when seniors use services as a substitute for companionship. Either scenario is undesirable

as it reflects either a potential danger to the senior or an unnecessary healthcare cost to the system. Conversely, healthy social networks appear to guide and facilitate appropriate health and social service use for seniors. (2006, p.41)

Seniors who are socially isolated or lack social support have been found to be at increased risk of hospitalization (Greysen et al., 2013), re-hospitalization (Giuli et al., 2012), mortality (Greysen et al., 2013; Pynnonen et al., 2012), and institutionalization (Pynnonen et al., 2012). Social isolation and lack of social support have also been associated with increased physician utilization (Gerst-Emerson & Jayawardhana, 2015; Laporte, Nauenberg, & Shen, 2008) and higher hospital costs (Landeiro, Leal, & Gray, 2016). Appendix 6 provides an overview of the relevant studies on social support and healthcare utilization and costs.

Social support slows cognitive decline, delays the progression of physical disability, has a positive impact on mental well-being and increases longevity.

¹¹ Welfare state refers to the social institutions in a country which ensure the economic and social well-being of citizens.

Health promotion interventions are most effective when they are person-centred and tailored to meet the needs of cultural/linguistic groups.

5. Designing Interventions to Promote Health and Resilience in Seniors

In the previous sections, some important themes emerge as to how community-based interventions that promote health and resilience should be designed and delivered. These themes include: the use of a person-centred approach; the importance of fostering social support and social connection in all programming; the increased focus on health promotion programming; the need for transportation to access programming; and the challenges of implementing interventions in diverse settings.

5.1. PERSON-CENTRED APPROACH

Seniors are often thought of as a homogenous group, however, there is significant diversity in seniors' populations not only in terms of age, functional status, ethnicity, education and culture, but also in terms of their interests, skills and abilities. The importance of a person-centred approach (also known as a patient-centred approach) is emphasized as fundamental to success in many intervention studies (e.g., Hildebrandt et al., 2010; Lewin et al., 2013, etc.). The B.C. MoH has embraced the concept of patient-centred healthcare which is described as an approach that:

Puts patients at the forefront of their health and care, ensures they retain control over their own choices, helps them make informed decisions and supports partnerships between individuals, families, and health care services providers. (B.C. MoH, 2015b, p.1)

In community-based services, person-centred approaches are seen as approaches that put the individual at the centre of decisions and offer a range of options tailored to meet individual needs, interests and abilities (Coulourides, Kogan, Wilber, & Mosqueda, 2016).

A systematic review of interventions for people with chronic diseases found that a person-centred approach was associated with increased satisfaction and perceived quality of care (McMillan, et al., 2013). Research using qualitative interviews with seniors participating in physical activity programs also found that seniors appreciate when physical activity programs accommodate differing levels

of skill and ability, and seniors may stop participating when these options are not available (Hickerson et al., 2008). Similarly, Lood, Häggblom-Kronlöf and Dahlin-Ivanoff (2015) found that health promotion interventions are most effective when they are person-centred and tailored to meet the needs of cultural/linguistic groups.

5.2 FOSTERING SOCIAL CONNECTEDNESS IN ALL PROGRAMMING

It is important for social support to be recognized as a fundamental feature, not only in programs specifically designed to foster social networks and social connectedness, but in all programming offered by the community-based seniors' services sector. Social support both facilitates participation in programming, and can also be a secondary benefit of interventions aimed at other health outcomes.

For example, in recognition of the potential social role of meal programs, there has been a shift in how meal programs are provided with a trend of moving away from traditional Meals on Wheels models and towards the provision of meals in social settings (Winterton, Warburton, & Oppenheimer, 2013). Participation in meal programs supports seniors to connect with each other and with staff who can help them in making links to other necessary informal or formal supports (Kirk, Waldrop, & Rittner, 2001). Food can also serve as a facilitator of social connectedness. A study conducted by the United Way of the Lower Mainland found that when food was incorporated into social support programs, it encouraged social interactions, created community, and attracted people to community organizations (Randhawa, 2015).

Social support is also an integral aspect of physical fitness programming. Van Stralen, De Vries, Mudde, Bolman and Lechner (2009) found that social support and having a sports partner were positively associated with the initiation and maintenance of physical activity in older adults. In particular, social support from friends and family was key for initiating physical activity, while support from instructors and group members was important for maintaining ongoing physical activity. Hickerson et al. (2008) found that the desire to connect with others and make new friends was a common reason why participants chose to join a physical activity program. In their case



Transportation is increasingly being recognized as a potential barrier for seniors seeking to access health, social, and community-based services.

study of an intervention to enhance the access of South Asian seniors to exercise programs, Koehn, Habib and Bukhari (2016) found that an important benefit of attending exercise programs was the enhancement of social networks, and on average participants made 5-6 new friends through their participation.

There is also a social support component built into most self-management programs. Social support has been shown to facilitate self-management through different mechanisms including: direct support with self-management tasks; positive encouragement and advice; and positive effects of social support on motivation, coping, and psychological well-being (Gallant, 2003).

5.3 INCREASED DEMAND FOR HEALTH PROMOTION PROGRAMMING

As noted earlier, there has been a shift in the focus of senior centres, with an increasing demand for health promotion programs. Senior centres are now offering a wide variety of health promotion and prevention programs such as blood pressure monitoring, nutritional supports, falls prevention, vision and hearing screenings, caregiver resources, chronic disease self-management support groups, and balance and strength physical activities (Casteel et al., 2013). These programs create an opportunity to provide services to vulnerable seniors with higher needs who are traditionally less likely to participate in senior centre programming (Pardasani, 2010).

While senior centres or other community organizations may be an ideal location for health promotion and prevention activities, not all centres have the knowledge and resources available to address health needs and

chronic illnesses. Further development and support is needed if senior centres are to take on an increased role in this area (Fitzpatrick et al., 2005a). The shifting role of senior centres necessitates increased partnerships and collaboration with healthcare providers and the healthcare system. Within B.C., senior centres and community organizations are taking on activities that were previously provided by the health authorities and are increasingly dealing with participants with more significant health challenges (Levi & Kadowaki, 2016). Health and wellness programming is identified by Levi and Kadowaki (2016) as an area where strategic partnerships are being used to innovate and provide new programs, but where more assistance is still needed from funders to support the sector's work in this area.

5.4 NEED FOR TRANSPORTATION TO ACCESS PROGRAMMING

Transportation is increasingly being recognized as a potential barrier for seniors seeking to access health, social, and community-based services. The B.C. Office of the Seniors Advocate (2014) identified transportation to access healthcare or other support services as one of the vital issues for seniors in the province. Data from the 2009 *Canadian Community Health Survey - Healthy Aging* (Turcotte, 2012) shows that approximately 5% of senior men and 14% of senior women require transportation assistance, and these percentages increase to as high as 28% and 54% for the oldest age group (seniors 90+). Seniors who have lower incomes need more transportation assistance. Forms of transportation have been linked to likelihood of social participation - seniors who drive are more likely to have participated in a social activity in the previous week (73%) compared to those

There is a growing recognition that the community-based seniors' services sector "can't do it alone," and yet building partnerships can be very challenging, particularly in terms of the required time and resources.

who use public transit (61%) or accessible transit/taxi (46%) (Turcotte, 2012).

Transportation is a particular concern in rural areas, which often lack public transit services. Ryser and Halseth (2012) conducted key informant interviews across Northern B.C. and identified seven key challenges for regional transportation as geography (isolation and distance), maintenance of roads, organizational capacity to provide services, communication and awareness of services, human resources to support mobility programs, infrastructure barriers, and financial barriers. Ryser and Halseth (2012) suggest that policies are needed that encourage regional collaboration, the development of transportation strategies, investment in the transportation sector/programs and collaboration between stakeholders.

Transportation services are key to supporting seniors, particularly those with higher health needs and lower incomes, to access community-based seniors' services. They are an important consideration for the sector when planning programs and for municipal, regional and provincial governments who increasingly rely on this sector to provide health promotion and prevention services to B.C.'s aging population.

5.5 ADDRESSING THE CHALLENGES OF IMPLEMENTING EFFECTIVE INTERVENTIONS

There can be significant challenges in implementing interventions, even when they are evidence-based and have proven to be effective. In the literature, a lack of ongoing sustainable funding emerges as a significant concern for non-profit community-based seniors' services (e.g., Pardasani & Sackman, 2014). Even if organizations successfully implement a program, many have difficulties sustaining the program after the initial grant funding runs out. They also often lack other resources such as staff, space and technical knowledge. For example, when attempting to disseminate an evidence-based physical activity intervention to community settings, Stewart et al. (2006) report that a lack of resources led to undesirable adaptations to the program that ultimately diluted its effects. Partnerships can be one way to overcome some of the challenges associated with lack of funding

and resources. There is a growing recognition that the community-based seniors' services sector "can't do it alone," and yet building partnerships can be very challenging, particularly in terms of the required time and resources (Radermacher, Karunaratna, Grace, Feldman, 2011).

Reaching diverse populations of seniors with appropriate and effective programming can be challenging. In many senior-serving organizations, racially and linguistically diverse populations are underrepresented. Pardasani (2004b) makes a number of recommendations to encourage increased participation from underrepresented groups. He suggests offering programs in languages other than English, offering programs tailored for culturally diverse groups, and hiring staff from different cultures and ethnicities. Koehn, Habib and Bukhari (2016) presented a case study of an effective partnership between a municipal recreation centre and a non-profit agency to facilitate access to fitness programs for South Asian seniors, showing that with effort there are ways to reach underrepresented groups. The non-profit agency assisted the recreation centre in finding ways to modify their outreach activities to enhance the access for South Asian seniors, including by building support among family members, increasing face-to-face contact, and providing transportation support and food.

The challenge of providing services in rural versus urban areas is an issue that deserves attention. Skinner et al. (2008) reviewed interview data from the *Aging Across Canada: Comparing Service Rich and Service Poor Communities*, and cautioned against basing health policy on the belief that community support and informal care can substitute for formal services in rural areas. They found that despite strong belief in community, service providers still expressed uncertainty over the ability of rural communities to support aging in place. Challenges that emerge when providing services in rural areas include boom and bust economic cycles and political restructuring; difficulties in achieving economies of scale; distance, travel and isolation; climate and weather; service deficiencies; lack of infrastructure; lack of professionals; and aging volunteers (Skinner et al., 2008).

Conclusion

The community-based seniors' services sector plays a key role in delivering cost-effective health promotion and prevention programming that helps to build resilience amongst seniors, particularly among low income and more vulnerable seniors. While policy statements from the provincial and municipal levels of government acknowledge the contribution of the sector on paper, access to services across the province is uneven and has not increased significantly – and in some key areas actually declined – despite the aging of the population.

To support B.C.'s seniors to remain as healthy and independent as possible, a funding and policy framework is needed that will build the capacity of this sector. At present, there are significant gaps in our knowledge regarding the availability of community-based seniors' services in different communities and regions across the province and for different populations of seniors (e.g. Seniors who are Indigenous, newcomers, LGBTQ-2spirited and/or Seniors of Colour). There is also a lack of understanding by the public and within government of the key role played by community-based seniors' services in providing the health prevention and promotion programming that is so critical in supporting seniors to remain as independent, socially connected and resilient as possible.

The Raising the Profile Project (RPP) is conducting further work to expand our understanding of the community-based seniors' services sector in B.C. The RPP is profiling the work of the sector and promising practices; identifying challenges and future directions; and building the case for increased collaboration and coordination, both within the sector and with external partners and funders. Raising the visibility and providing more support for the type of programming offered by the community-based seniors' services sector is critical to ensuring that B.C. has the capacity to address the growing challenges of an aging population, now and into the future.

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Appendix I

Description of Age-Friendly Cities

Closely tied to the concept of the social determinants of health is the concept of age-friendly cities. Age-friendly cities is a health promotion initiative of the World Health Organization (WHO) and the Public Health Agency of Canada (PHAC) played a key role in creating the WHO's Global Age-Friendly Cities Guide. This guide was developed based on consultations held in 33 cities across the globe. The WHO states "In practical terms, an age-friendly city adapts its structures and services to be accessible to and inclusive of older people with varying needs and capacities." (WHO, 2007, 1).

The concept of age-friendly cities recognizes the profound impact that communities can have on the health and well-being of their citizens. Age-friendly cities are not meant to just be "elderly friendly," rather they can benefit all members of society by promoting accessibility, inclusion and well-being (WHO, 2007). The Global Age-Friendly Cities Guide identifies eight core features of age-friendly cities, and also provides checklists of specific criteria for each feature. The eight core criteria identified are: outdoor spaces and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, and community support and health services (WHO, 2007). To complement the WHO Guide, PHAC has produced Age-Friendly Rural and Remote Communities: A Guide (Federal/Provincial/Territorial Committee of Officials [Seniors], 2007) which addresses the core features identified in the WHO Guide from a rural perspective.

Community-based seniors' services can contribute to the age-friendliness of cities in a number of different ways, by providing, for example community transportation options (transportation), a range of activities and events (social participation), volunteer opportunities (civic participation and employment), information and referral services (communication and information), and prevention and health promotion programs (community support and health services).

The concept of age-friendly cities has been embraced in Canada at the federal, provincial and municipal levels. In B.C., a total of 39 communities have been recognized as age-friendly since 2012 (B.C. Government, 2016). One example is Saanich, B.C., which was selected

to participate in the WHO Global Age-Friendly City project in 2006. Through focus groups, information was collected on the experience of seniors in Saanich and barriers to an age-friendly city were identified. Consultations were then conducted with stakeholders to identify local actions that could be taken to build an age-friendly environment. Box 1 provides examples of some of the initiatives that have been undertaken to make Saanich more age-friendly as a result of this work (District of Saanich, 2007).

Box. 1 Examples of Age-Friendly Initiatives in Saanich

- Sidewalk improvements
- Offering mature driver education workshops
- Construction of a senior centre at a local elementary school
- Offering health education workshops and seminars
- Introduction of annual seniors' festival
- Measures to promote senior participation in civic elections
- Leisure Involvement for Everyone (L.I.F.E.) program to assist low-income seniors to access programs
- Providing volunteer opportunities with municipal services and facilities
- Offering rehabilitation programs in partnership with Vancouver Island Health Authority

While age-friendly cities is a promising health promotion initiative, it should be noted that it has been critiqued for the lack of evaluative studies and evidence-based research on the impacts of these initiatives (e.g., Golant, 2014).

Appendix 2

Description of Gesundes Kinzigtal

Gesundes Kinzigtal (Healthy Kinzigtal) is a German example of an intervention intended to bring about whole system change for people in the Kinzigtal region (Hildebrandt, Hermann, Knittel, Richter-Reichelm, Siegel & Witzenrath, 2010). The rationale for the intervention is that substantial population-health gains and cost-savings will be accrued through addressing fragmentation within the healthcare system and focusing on self-management, health promotion, and prevention. The system is operated by the regional integrated care management company Gesundes Kinzigtal GmbH, which is owned by the local physician's network and a healthcare management company, and is responsible for the healthcare of 31,000 people in the region. The system operates based on a shared savings model, where healthcare cost savings are shared between the health insurers and Gesundes Kinzigtal GmbH (Hildebrandt et al., 2010). Key components of care in Gesundes Kinzigtal include (Hildebrandt et al., 2010):

- Developing individual treatment plans and goals
- Patient self-management and shared decision-making
- Follow-up and case management
- Providing appropriate and tailored care
- Use of system-wide electronic medical records

Multiple prevention, health promotion, and self-management programs are available to participants to enhance their health such as: active health promotion for the elderly, osteoporosis risk program, and chronic heart failure program (Hildebrandt et al., 2010). Collaborations with community-based organizations (e.g., fitness centres, self-help groups, voluntary associations, etc.) within the region have been key to many of the primary prevention initiatives (Hildebrandt, 2014). For example (Hildebrandt, 2014):

- Members are connected to needed social care services in the community
- Funding is provided for members to participate in community health promoting activities (e.g., gym, leisure clubs, etc.)

- Education and exhibitions are conducted at community events
- Funding and training is provided to support sports and fitness clubs
- Sport programs have been developed specifically for people at risk

Evaluations of Gesundes Kinzigtal have been coordinated by an independent agency and have found (Hildebrandt, Schulte & Stunder, 2012):

- Positive impacts for their disease-specific health promotion programs. For example, patients participating in the chronic heart failure program had higher survival rates and lower overall costs than controls
- Over a five-year period, costs per person in the Kinzigtal region were 16.9% less than costs for individuals living in a control region (cost savings of €327 per person)
- Over a five-year period, the number of hospitalizations in the Kinzigtal region increased by 10.2%, while in the control region they increased by 33.1%

Gesundes Kinzigtal provides an example of an effective model of system integration based on a prevention and health promotion approach, which has been able to realize significant cost savings, and also shows how the strengths of community-based organizations can be integrated within such a system.

Appendix 3

Summary of studies examining the relationship between nutrition and healthcare utilization and costs for seniors.

Study Title	Study Description	Sample	Key Findings*	Takeaway Messages
Costs of hospital malnutrition (Curtis et al., 2016)	Prospective cohort study involving patients admitted to 18 hospitals over 2010 to 2013 to analyze the hospital costs associated with malnutrition	956 patients admitted to a surgical or medical ward at one of 18 participating hospitals over 2010-2013	Total costs were about 31-34% higher for moderately malnourished patients and 38% higher for severely malnourished patients. Hospital stays were 18% longer for moderately malnourished patients and 34% longer for severely malnourished patients compared to well-nourished patients	Malnourished patients have longer hospital stays and higher hospital costs than well-nourished patients On average malnourished patients cost an additional \$1,500-\$2,000 per hospital stay, resulting in additional costs to the healthcare system of approximately \$1.56 to \$2.1 billion per year
Malnutrition at Hospital Admission—Contributors and Effect on Length of Stay: A Prospective Cohort Study From the Canadian Malnutrition Task Force (Allard et al., 2016)	Prospective cohort study involving patients admitted to 18 hospitals over 2010 to 2013 to examine the nutritional status of patients and the relationship between nutritional status and length of stay	1,015 patients (median age 66) admitted to one of 18 participating hospitals over 2010-2013 558 patients were well-nourished, and 457 were malnourished	Factors associated with malnutrition at admission were complex condition, living alone, and relying on adult children for grocery shopping Malnutrition at admission was associated with prolonged length of stay. Well-nourished patients had a lower risk of prolonged hospital stay (HR = 0.73)	Malnutrition at hospital admission is associated with prolonged hospital stays
Costs of malnutrition in Institutionalized and Community-Dwelling Older Adults: A Systematic Review (Abizanda, Sinclair, Barcons, Lizan, & Rodriguez-Manas, 2016)	Systematic review of studies examining the costs of malnutrition/disease-related malnutrition in institutionalized or community-dwelling older adults Study also examines the effects and costs of nutritional interventions in these populations	A total of 9 studies met the inclusion criteria, with 4 estimating the direct costs of malnutrition, while 5 estimated the impact of interventions on malnutrition costs	All 4 of the studies estimating the direct costs of malnutrition found significant costs (as high as €1.5 billion) associated with managing patients with malnutrition In the intervention studies (oral nutritional supplements or educational programs) results were mixed, with 3 studies reporting overall decreased costs of healthcare and the other 2 having statistically insignificant results. Nutritional status was reported as improved in the intervention group in the 3 studies reporting on this measure	Direct costs of managing senior patients with malnutrition are estimated to potentially be as high as €1.5 billion Nutritional interventions can improve nutritional status, and some studies suggest may also decrease overall healthcare costs.
Nutritional Risk and Body Mass Index Predict Hospitalization, Nursing Home Admissions, and Mortality in Community-Dwelling Older Adults: Results from the UAB Study of Aging with 8.5 Years of Follow-Up (Buys et al., 2014)	Analysis of longitudinal data from the University of Alabama at Birmingham Study of Aging to examine the association between nutritional risk and BMI with hospitalizations, nursing home admissions, and mortality over 8.5 years	978 community-dwelling older adults (65 and up) living in rural and urban counties in Alabama 443 participants had low nutritional risk, 333 moderate nutritional risk and 205 high nutritional risk 21 participants were underweight, 288 normal weight, 369 overweight, 200 class I obesity, and 103 class II or III obesity	High nutritional risk was associated with an increased risk for hospitalization (HR = 1.51) and non-surgical admission (HR = 1.50), but not with nursing home admission Both moderate and high nutritional risk were associated with an increased likelihood of mortality, but for high nutritional risk the relationship was not statistically significant BMI did not have a statistically significant relationship with any of the outcome measures	High nutritional risk is associated with a 51% increase in hospitalizations Some evidence also suggests that nutritional risk is associated with mortality, though this relationship was not statistically significant
Malnutrition and Its Impact on Cost of Hospitalization, Length of Stay, Readmission and 3-Year Mortality (Lim et al., 2012)	Prospective cohort study using a case control method based on Diagnostic Related Groups to examine the impact of malnutrition on healthcare costs and hospitalization outcomes	818 patients from a hospital in Singapore aged 18-74 (mean age 52) 583 patients were well nourished while 235 were moderately/severely malnourished 187 of the moderately/severely malnourished were able to be matched with 343 controls	Compared to controls malnourished patients were found to have longer hospital stays (mean 6.9 days vs. 4.6), greater risk of readmission within 15 days (RR = 1.9), and greater risk of 1, 2, and 3-year mortality (RR = 4.4, 3.2, and 2.8) At 3-years post-discharge 10% of well-nourished patients had died compare to almost 50% of malnourished Based on average Diagnostic Related Group costs, costs of malnourished patients were on average \$1,392 (Singapore dollars) higher than the average diagnostic group costs, and was 3 times higher than well-nourished patients	Being moderately/severely malnourished was associated with longer hospital stays, increased risk of readmission to the hospital, and an almost 3 times greater risk of mortality at 3-year follow-up Moderately/severely malnourished patients had 3 times higher costs than well-nourished patient costs in the same diagnostic group
The Geriatric Nutritional Risk Index [GNRI] Predicts Increased Healthcare Costs and Hospitalization in a Cohort of Community-Dwelling Older Adults: Results from the MONICA/KORA Augsburg Cohort Study 1994-2005 (Baumeister et al., 2011)	Longitudinal study to examine nutritional risk (measured by the Geriatric Nutritional Risk Index [GNRI]) as a predictor of healthcare costs and hospitalizations in community-dwelling older adults	1,002 community-dwelling older adults from the MONICA Augsburg study (Germany) aged 55-75	GNRI was significantly related to total costs, inpatient costs, pharmaceutical costs, and hospitalizations at baseline and 10-year follow-up. Dose-response relationships were observed for these relationships Individuals with low GNRI scores (high nutritional risk) at baseline were found to have 47% higher total costs, 62% higher inpatient costs, 27% higher pharmaceutical costs, and 50% higher risk of hospitalization	Low GNRI levels (high nutritional risk) are associated with 47% higher total healthcare costs (including higher inpatient and pharmaceutical costs) and a 50% higher risk of hospitalization
The Impact of Malnutrition on Morbidity, Mortality, Length of Hospital Stay and Costs Evaluated Through a Multivariate Model Analysis (Correia & Waitzberg, 2003)	Retrospective cohort study of hospital patients examining the association between nutritional status and hospital outcomes and healthcare costs	709 patients (mean age 51) randomly selected from 25 Brazilian hospitals 65.8% were well nourished and 34.2% were moderately or severely malnourished	Malnourished patients had an increased risk of complications (OR = 1.60) and mortality (OR = 1.87) Length of hospital stay was shorter for well-nourished patients compared to malnourished patients (average 10.1 days vs. 16.7 days), and being well nourished was a protective factor (OR = 0.70) for length of hospital stay Mean daily costs were \$138 (US dollars) for well-nourished patients and \$228 for malnourished patients (60.5% increased costs observed, which increases to up to 308.9% when costs for tests and medications are included in a sub-sample of respiratory infection patients)	Malnutrition is associated with increased risk of complications and mortality, and longer hospital stays. An estimate of total hospital costs (daily hospital costs, drugs and tests) for a sub-sample of respiratory infection patients found that costs for malnourished patients were up to 300% higher than for well-nourished patients

* All results reported were statistically significant, unless stated otherwise. All results report on regression models which adjusted for potential confounding variables.

Appendix 4

Summary of studies examining the relationship between physical activity and healthcare utilization and costs for seniors.

Study Title	Study Description	Sample	Key Findings*	Takeaway Messages
Objectively Assessed Physical Activity and Subsequent Health Service Use of UK Adults Aged 70 and Over: A Four to Five Year Follow Up Study (Simmonds et al., 2014)	Analysis of data from the observational cohort study OPAL and follow-up study OPAL-PLUS to determine the association between objectively measured physical activity (seven day accelerometry) and health service utilization	213 older adults aged 70 and up living in the West of England	Lower physical activity as measured by minutes of moderate to vigorous physical activity was associated with a greater number of prescriptions (IRR = 1.53) Minutes of moderate to vigorous physical activity and total steps per day were also associated with hospital admission (IRR = 1.85), though this result diminished after adjusting for lower limb function.	Moderate or vigorous physical activity is associated with a reduced number of prescriptions, and may also be associated with fewer unplanned hospital admissions
Physical Activity and Health Service Utilization Among Older People (Jacobs, Rottenberg, Cohen, & Stessman, 2013)	Longitudinal study following a cohort of community-dwelling older adults to determine the association between physical activity and health service utilization at ages 78 and 85	A representative sample of participants from the Jerusalem Longitudinal Study who are community-dwelling participants born in 1920/1921 Sample included 896 participants at age 78, and 1173 participants at age 85	Physical activity was associated at age 78 with a reduced likelihood of ER visits (OR = 0.49) and at 85 reduced likelihoods of both ER visits (OR = 0.72) and hospitalizations (OR = 0.68) Participants who had been physically active at both ages and participants who started being physically active only after age 78 both experienced reduced likelihood of ER visits and hospitalizations	Physical activity was associated with decreased likelihood of ER visits and hospitalizations in community-dwelling older adults Reductions in health service utilization were seen even for older adults who had only started becoming physically active between age 78-85, suggesting that starting physical activity even at advanced ages can have benefits
Does Physical Activity Reduce Seniors' Need for Healthcare?: A Study of 24,281 Canadians (Woolcott et al., 2010)	Analysis of data from the cross-sectional Canadian Community Health Survey cycle 1.1 to assess the relationship between physical inactivity and health resource use and costs	24,281 respondents from the Canadian Community Health Survey aged 65+ 75.2% (18,258) of the respondents were classified as physically inactive	Physically inactive respondents reported more hospital stays (OR = 1.84), longer mean lengths of hospital stays (3.18 days vs. 0.82), and more visits to physicians and healthcare personnel (11.8 visits vs. 8.2) Total health resource use costs for physically inactive respondents were over 2.5 times greater than costs for active respondents (\$2005.27 vs. \$791.12) Estimated total health resource use costs for inactive Canadian seniors is over \$5.6 billion	Physically Inactive Canadian seniors have significantly higher rates of health resource use and over 2.5 times the healthcare costs compared with physically active seniors, with an estimated annual additional cost to the health system of \$5.6 billion.
Healthcare Cost Differences with Participation in a Community-Based Group Physical Activity Benefit for Medicare Managed Care Health Plan Members (Ackermann et al., 2008)	Retrospective cohort study investigating the impact of an Enhanced Fitness (EF) program on healthcare utilization and costs over a two-year period Study builds on a previous study by the authors published in 2003	Sample was recruited from the health maintenance organization Group Health Cooperative of Puget Sound and consisted of Medicare enrollees aged 65+ who participated in the EF program (n = 1,188) or agreed to be controls (n = 2,462)	Similar costs were observed at year 1, but in year 2 EF participants had significantly lower total healthcare costs (\$1,186 less) than controls, primarily due to lower inpatient costs High EF users (participate in one or more sessions per week) had lower healthcare costs in both years 1 and 2 Dose-response effect was observed where higher EF users had lower costs than lower EF users	Over a two-year period participation in a physical activity program was found to reduce healthcare costs for participants (about \$1,186 less) in comparison to the control group. Most of the cost savings were from reduced hospitalizations.

* All results reported were statistically significant, unless stated otherwise. All results report on regression models which adjusted for potential confounding variables.

Appendix 5

Summary of studies linking social support and health outcomes in seniors.

Study Title	Study Description	Study Sample	Key Findings*
Social relationships and mortality risk: A meta-analytic review (Holt-Lunstad, Smith & Layton, 2010)	Meta-analytic review of the association between social relationships and mortality	A total of 148 studies met the study inclusion criteria (308,849 people) Average age of participants was 64 and study included community, outpatient and inpatient clients followed for an average of 7.5 years	Average odds ratio was 1.50 (range 0.77-6.50) indicating a 50% increased likelihood of survival with strong social relationships Magnitude of effect of social relationships as a risk factor for mortality is comparable to the effect of smoking
Social capital as a resource for mental-well-being in older people: a systematic review (Nygqvist, Forsman, Giuntoli, & Catta, 2013)	Systematic review of general population studies to explore the relationship between social capital (shared community resources, e.g., trust, social support, etc.) and mental well-being in older adults (50+) and how the concept of social capital has been used in research on mental well-being	A total of 11 cross-sectional studies met the inclusion criteria (6 of these used nationally representative samples)	A total of 10/11 studies reported at least one positive association between components of social capital and mental well-being Positive associations were reported for: QOL (4 studies), life satisfaction (2), happiness (2), loneliness (1), emotional health (1), personal or national well-being (1), and mental health (1)
Social relations and depression in late life-A systematic review (Schwarzbach, Luppia, Forstmeier, Konig & Riedel-Heller, 2014)	Systematic review of studies examining the association between social relations (structural factors and functional factors) and depression in older adults (60+)	A total of 37 studies met the inclusion criteria (25 cross-sectional and 12 longitudinal)	Structural factors: Social integration was negatively associated with depression in longitudinal studies (6/6), though in cross-sectional studies (5/10) the results were inconclusive. Functional factors: Perceived social support (10/13 studies) was negatively associated with depression
Interventions targeting social isolation in older people: a systematic review (Dickens, Richards, Greaves, & Campbell, 2011)	Systematic review and narrative synthesis of RCTs and quasi-experimental studies assessing the effectiveness and health impacts of interventions designed to alleviate social isolation in older adults	A total of 32 studies met the inclusion criteria (16 RCTs and 16 quasi-experimental studies) A total of 4,061 participants were included in the 32 studies 19 interventions were delivered in groups, 11 one-on-one, and 2 used combined formats 7 studies provided activity interventions, 15 support interventions, 5 home visiting, 4 internet training, and 1 service provision	Statistically significant improvements in outcome measures were observed in 4/16 interventions for loneliness, 0/3 for social isolation, 15/21 for structural social support, 4/13 for functional social support, 4/13 for depression, 7/14 for mental well-being, and 4/5 for physical health Characteristics of most effective interventions were: group-based, participatory, had a theoretical basis, and involved activity or support interventions
A Systematic Review of Social Factors and Suicidal Behavior in Older Adulthood (Fassberg et al., 2012)	Systematic review of studies examining the relationship between social factors and suicidal behavior in older adults (65+)	A total of 14 studies (16 articles) met the inclusion criteria	Low levels of social connectedness were associated with suicidal ideation, non-fatal suicidal behavior, and suicide in later life In particular, low social integration (4/5 studies) and loneliness (2/2) were associated with suicidal behaviour
Loneliness, Social Isolation, and Behavioral and Biological Health Indicators in Older Adults (Shankar, McMunn, Banks & Steptoe, 2011)	Study analyzed data from the English Longitudinal Study on Aging to examine the relationship between social isolation and loneliness on health behaviours and biological factors	English Longitudinal Study of Ageing included 8,688 people aged 50+ living in England	Both social isolation and loneliness were associated with negative health behaviours (smoking and physical inactivity) Social isolation was associated with higher blood pressure and inflammatory markers
The impact of social isolation on the health status and health-related quality of life of older people (Hawton et al., 2011)	Study analyzed data from the Devon Ageing and Quality of Life study to examine the relationship between social isolation and health status and health-related quality of life	Devon Ageing and Quality of Life study included 393 older adults 50+ living in England who were at risk of social isolation or socially isolated	Social isolation was negatively associated with both health status and health-related quality of life in seniors
Association Between Late-Life Social Activity and Motor Decline in Older Adults (Buchman, Boyle, Wilson, Fleischman, Leurgans, & Bennett, 2009)	Study analyzed data from the Rush Memory and Aging project to examine the relationship between social activity and motor function in old age	The Rush Memory and Aging project included 906 older adults 60+ living in the community without stroke, Parkinson disease, or dementia	Each point below the mean social activity score resulted in a 33% more rapid decline in global motor function or the equivalent of being 5 years older at baseline Increased motor decline was associated with increased risk of death and disability
Effects of Social Integration on Preserving Memory Function in a Nationally Representative US Elderly Population (Ertel, Glymour, & Berkman, 2008)	Study analyzed data from the Health and Retirement Study to examine whether social integration protects against memory loss and cognitive disorders	The Health and Retirement Study included 16,638 US residents born before 1948	Over a six year period memory was found to have declined twice as much in the least socially integrated participants seniors compared to the most integrated

* All results reported were statistically significant, unless stated otherwise

Appendix 6

Summary of studies examining the relationship between social support and healthcare utilization and costs for seniors.

Study Title	Study Description	Sample	Key Findings*	Takeaway Messages
The Impact of Social Isolation on Delayed Hospital Discharges of Older Hip Fracture Patients and Associated Costs (Landeiro, Leal, & Gray, 2016)	Prospective cohort study conducted in an Orthopaedics Department in a hospital in Portugal to determine the relationship between social isolation and delayed discharge in older adults, and estimate the costs of delays	Sample included 278 hip fracture patients (mean age = 86 years) admitted to the hospital 22% of patients experienced a delay in discharge 1/3 of patients were socially isolated or had a high risk of social isolation	Patients who were isolated or had a high risk of social isolation were more likely to have a delay in their discharge (OR = 3.5) than patients with low risk of isolation Compared to patients with low risk of isolation, patients with moderate social isolation on average had their discharge delayed an additional 1.5 days and high risk/socially isolated an additional 2.6 days Estimated additional costs were €532 for moderate social isolation patients and €905 for high risk/socially isolated Estimated total costs of delayed discharges for the sample were €577,680	For older adults with hip fractures, being socially isolated or at high risk of social isolation is associated with longer hospital stays and higher healthcare costs The average cost of a patient with delayed discharge was 77.5% higher than patients with no delay.
Loneliness as a Public Health Issue: The Impact of Loneliness on Healthcare Utilization Among Older Adults (Gerst-Emerson & Jayawardhana, 2015)	Panel analysis of data from the longitudinal Health and Retirement Study (years 2008 and 2012) to examine the relationship between loneliness and healthcare utilization	Sample included 3,530 community-dwelling older adults (60+) living in the US Over half of the sample reported being lonely at each time period	For older adults with chronic loneliness (lonely both in 2008 and 2012) loneliness had a positive relationship with number of doctors' visits Mixed results were found for the relationship between loneliness and hospitalizations, with only loneliness in 2008 having a statistically significant positive association with hospitalizations	Loneliness in older adults is associated with increased utilization of physician services. The relationship between loneliness and hospitalizations remains unclear. Authors suggest that lonely older adults may seek social support from their physicians, which explains why there is an association between loneliness and physician visits, but not hospitalizations
Does Social Isolation Predict Hospitalization and Mortality Among HIV+ and Uninfected Older Veterans? (Greysen et al., 2013)	Longitudinal cohort study (Veterans Aging Cohort Study) comparing the effects of social isolation on inpatient admission and care outcomes in veterans with HIV and uninfected individuals	1,836 veterans (55+) recruited from 8 Veterans Affairs Medical Centres across the US 46% of the veterans were HIV+ and 54% were uninfected. The two groups were analyzed together in a combined model due to similar results, though it should be noted social isolation was much more prevalent in the HIV+ group.	Social isolation was found to be associated with an increased likelihood of hospitalization (HR = 1.25) and mortality (HR = 1.28) in veterans	Social isolation is associated with an increased likelihood of hospitalization and death in both HIV+ and uninfected veterans
Does Social Activity Decrease Risk for Institutionalization and Mortality in Older People? (Pynnonen et al., 2012)	Longitudinal study (17 years) following community-dwelling older adults in Finland to examine the relationships between collective social activity (e.g., organizational, physical, cultural, etc.) and productive social activity (e.g., giving help) with institutionalization and mortality	1,181 community-dwelling older adults aged 65-84 from Finland 94% of participants participated in collective social activities and 45% participated in productive social activity	A one-unit increase in collective social activity decreased mortality risk by 4% and institutionalization risk by 27% Relationship between collective social activity and institutionalization was not stable over time and protective effect lasted only about 2,500 days into follow-up. Hazard ratios over time were 0.85 (1,000 days), 1.01 (3,250 days) and 1.19 (5,500) No significant association was found between productive social activity and mortality and institutionalization	Collective social activity is associated with decreased risk of mortality in older adults Collective social activity is also associated with decreased risk of institutionalization, though this protective effect diminished over time
Social Isolation Risk Factors in Older Hospitalized Individuals (Giuli et al., 2012)	Longitudinal study of hospital patients to examine the predictive power of components of the comprehensive geriatric assessment on social isolation, and examine whether social isolation is a predictor of mortality and re-hospitalization over a 3 year period	580 patients from an Italian hospital aged 70 and up Approximately 20% of the sample were socially isolated	Risk of social isolation was higher among women. Good quality of life and strong family ties reduced risk of isolation for both men and women. Social isolation was associated with increased risk of re-hospitalization (HR = 1.28), but did not have a statistically significant association with mortality	Social isolation is associated with increased risk for re-hospitalization in older hospital patients.
Aging, Social Capital, and Healthcare Utilization in Canada (Laporte, Nauenberg, & Shen, 2008)	Analysis of cross-sectional data from the Canadian Community Health Survey cycle 1.1 and the 2001 Canadian Census to determine whether community social capital (CSC) or individual social capital (ISC) influence healthcare utilization, and whether the relationship differs by age group	Sample included 39,355 community-dwelling Canadians (13% seniors)	For seniors a one standard deviation increase in CSC score was associated with a 5% decrease in GP visits (equivalent of \$225 million in cost savings for the senior population) For ISC results were mixed, with ISC increasing GP visits for seniors who are lower utilizers of services, but decreasing it for seniors who are higher utilizers For younger age groups higher CSC was associated with increased GP visits, while higher ISC was associated with decreased GP visits Neither CSC or ISC had a statistically significant association with hospital stays for seniors	Higher CSC is associated with decreased GP use by seniors, while for ISC the results were mixed. CSC was suggested to potentially impact GP use by providing substitute counseling/caring services, while ISC may improve access to services for low utilizers.

* All results reported were statistically significant, unless stated otherwise. All results report on regression models which adjusted for potential confounding variables.